

The pteridophytes of São Tomé and Príncipe (Gulf of Guinea)

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SYNOPSIS. A catalogue of the pteridophytes of São Tomé and Príncipe is presented, with 156 taxa, 12 of which are endemic to the islands. Recent synonymy for the area is included. All collections examined are cited.

INTRODUCTION

The most recent account of the pteridophytes of São Tomé and Príncipe (Gulf of Guinea) was produced by Alston in 1944. Since then several nomenclatural changes have taken place and new records have been added to the flora of the islands (e.g. Alston 1958, 1959).

The pteridophytes of the neighbouring island of Bioko (Fernando Po) have been recently revised by Benl (1978, 1980, 1982, 1988, 1991) who provided descriptions and keys to the taxa. The lack of an updated checklist for São Tomé and Príncipe and the difficulty in compiling the dispersed information on this group of plants have precluded its inclusion in recent floristic and biodiversity studies (Figueiredo, 1994).

The incorporation of several recent collections from São Tomé

and Príncipe at LISC, has revealed further new records and new areas of distribution for some taxa, and provided the basis for a revision of Alston's (1944) account.

DIVERSITY

There are 153 indigenous taxa of pteridophytes in São Tomé and Príncipe occurring from sea level (e.g. *Acrostichum aureum* L., found in swamps and mangroves) to the highest peaks of the islands (e.g. *Grammitis* spp.), and belonging to 28 families and 60 genera. Three taxa were probably introduced, and became naturalized, *Pityrogramma calomelanos* (L.) Link (Alston, 1944), *Adiantum raddianum* C. Presl from the Neotropics (Alston, 1956a), and *Pteris vittata* L. (Alston 1958, 1959).

One hundred and thirty-seven taxa occur in São Tomé and 75 occur in Príncipe; 12 taxa are endemic to the islands. In Bioko, the pteridophyte richness is higher than in either São Tomé or Príncipe, with 208 taxa in 31 families (Benl, 1978). However, only four taxa (1.9%) are endemic to Bioko, while eight taxa are endemic to São Tomé (5.8%) and three are endemic to Príncipe (4%).

This difference in the percentage of endemics is less striking than the difference found for the angiosperms. In that group, Bioko has 3.6% endemic taxa, São Tomé has 13.4%, and Príncipe has 8.2% (Figueiredo, 1994).

Asplenium is the genus of pteridophytes with the largest number of taxa in São Tomé and Príncipe. Twenty-four taxa are represented, of which three are endemic.

CONSERVATION

Twenty-five taxa collected in São Tomé and Príncipe in the nineteenth century have not been collected since, even though extensive collecting took place in the 1950s and also in the 1990s. Although some of these taxa, represented in the herbarium by a single collection, may be doubtful records, others were collected more than once by different collectors. The absence of these taxa amongst the collections made this century may indicate their rarity or extinction. For example, *Microlepia speluncae* (L.) T. Moore was collected in São Tomé by Don (s.l.), Quintas (Ilhéu das Rolas), and Welwitsch (Monte Café). Although Monte Café is a well collected area, visited by most botanists, this species has not been found during the last 100 years. Elsewhere in Africa, *M. speluncae* is rare and sporadic, occurring at low to medium altitudes.

Sixteen taxa are represented in herbaria by a single collection, either from São Tomé or from Príncipe (10 from São Tomé and 6 from Príncipe), which may indicate their rarity or even extinction. When Príncipe alone is considered, 27 of the total of 75 taxa have been collected only once. In this case, mistaken recordings or undercollecting are also a possibility. Several species are represented in herbaria by a single collection made by Barter, who visited Príncipe when stationed at Bioko, and therefore it is possible that there were some errors when the specimens were labelled. Príncipe remains poorly collected and recent collections of pteridophytes from that island were not available to confirm the presence of these taxa.

Seven taxa are apparently restricted to the Pico of São Tomé [*Asplenium friesiorum* C. Chr., *Ctenitis cirrhosa* (Schum.) Ching, *Grammitis molleri* (Baker) Schelpe, *G. tomensis* Schelpe, *Huperzia ophioglossoides* (Lam.) Rothm., *Lycopodium clavatum* L., and

Xiphopteris oosora (Baker) Alston] and five taxa are confined to the Pico of Príncipe [*Grammitis nigrocincta* Alston, *Hymenophyllum polyanthos* var. *mildbraedii* (Brause ex Brause & Hieron.) Schelpe, *Lomariopsis warneckeii* (Hieron.) Alston, *Selaginella squarrosa* Baker, and *Triplophyllum jenseniae* (C. Chr.) Holttum]. Most of these are high altitude pteridophytes which are also distributed on other African mountains. Two of these taxa, *Grammitis molleri* and *G. tomensis*, are very rare and endemic to the Pico of São Tomé. *Lycopodium clavatum* is cosmopolitan but, in the tropics, it is confined to mountains.

Of the twelve taxa endemic to São Tomé and Príncipe, two are apparently very rare, having been collected only once: *Selaginella monodii* Alston and *Sphaerostephanos elatus* subsp. *thomensis* Holttum.

COLLECTIONS

Historical collections

Exell (1944) gives a lively account of the early collectors in São Tomé and Príncipe. The majority of the earliest collections of pteridophytes from São Tomé and Príncipe were made by Don (in 1822), Curror (in 1839), Welwitsch (in 1853), Barter (in 1858), and Mann (in 1861). These collections are deposited at K (Curror, Barter, and Mann), BM (Don and Welwitsch), and LISU (Welwitsch).

In the late nineteenth century extensive collecting was made by the Portuguese collectors Moller, Quintas, and Newton. The original set of these collections is kept at COI, but duplicates were sent to several European herbaria. The duplicates were distributed as *Flora Africanae Exsiccata* (F.A.E.), a series in which different collections of the same taxon were grouped and distributed with the same number. For this reason, most F.A.E. labels refer to several localities and different collectors. After examining the original sets of the Moller, Quintas, and Newton collections, Exell (1944: 383–385) tried to link originals with duplicates. However, it seems that, for the pteridophytes, in most cases the original collections were scarcely labelled, lacking the information needed to link them to the duplicates distributed. Many F.A.E. duplicates sent from COI to K had a second label referring to a single collector. The numbering on these collector labels is unique to K specimens, as the original sets at COI are mostly unnumbered. Although the second label usually refers to a single collector and locality there is no certainty as to the correspondence between the specimen and the data. The information consisting of more than one locality, found on some F.A.E. and original set labels, is worthless and misleading because it is not possible to relate it to the specimens it is attached to. This information should be omitted when those collections are cited.

Together with the F.A.E. collections, the collections made by Chevalier in 1905 and Exell in 1932–33, the first sets of which are deposited, respectively, at P and BM, comprise the bulk of the material examined to produce Alston's account of the pteridophytes in Exell's Catalogue (1944).

Recent collections

Only a few collections were made during the twenty years that followed Exell's expedition in 1932–33. The majority of recent collections were made during the years 1954–1973, and in the 1990s.

The first set of the collections made by Rozeira in São Tomé and Príncipe in 1954 is deposited at PO. However, several collections of pteridophytes cited in the literature (Alston, 1958) could not be located in that herbarium. A set of duplicates of Rozeira's collection is apparently deposited at BM (Exell & Rozeira, 1958) but could not be found in 1997. Some duplicates (with the name of the collector missing) exist at K. Based on Rozeira's collections, new records for the islands were published by Alston (1958) in the proceedings of the 'Conferência Internacional dos Africanistas Ocidentais', which took place in São Tomé in 1956.

During 1956 several botanists collected in São Tomé and Príncipe. As part of a Calypso expedition which took place in 1956–57, Rose made several collections in the two islands, including living material, which were deposited at P. In the same year, Monod and Thorold made important collections in São Tomé and Príncipe, which are deposited at BM. These collections were studied by Alston (1958, 1959) and resulted in several new records being added to the flora of the islands. Lains e Silva also collected in São Tomé in 1956. Although his collections have been cited in the literature, several numbers could not be found either at LISJC or LISU. In 1968–1973, Espírito Santo collected in both islands. The original sets of his collections are kept at LISJC and LISC, with some duplicates at BM and COI.

Recent collections of pteridophytes from São Tomé examined during this study were mainly made by Pinto Basto in 1990, Matos and Matos & Van Essche in 1994, and Lejoly in 1994–1995, and are deposited at LISC. Recent collections were also made by Paiva (COI), but these were not available for examination at the time of this study.

CATALOGUE

The catalogue includes all the taxa of pteridophytes known to occur in São Tomé and Príncipe, arranged in alphabetical order, with synonyms and references to the literature for the area published since 1944. Synonyms already cited in Alston's (1944) work are omitted.

All the collections examined are cited in this catalogue. Collections cited in the literature are also included. Some of these specimens were not located (indicated in the text with 'not found'), and others were not available for study. Some of the collections cited but not seen by Alston (1944), probably at B, were not examined during this study; these are marked with a question mark. It is possible that a future study of the unseen material may reveal misidentifications by previous authors.

For each taxon, the collections are cited by alphabetical order of collectors, but collections from the same locality are grouped. Collections without locality are placed at the end of the specimens cited. These include *F.A.E.* and *Moller* collections with more than one locality on the labels. *F.A.E.* duplicates at K are cited under their *F.A.E.* number and reference is made to other labels and numbers if they exist.

Most of the localities provided by the collectors consist of the name of a plantation ('roça') or a river. For this reason, distribution maps based on these collections would be very inaccurate. Maps with 'roças' and other collecting localities mentioned in the text are provided, to allow for an estimate of the distribution of the taxa (Figs 1 and 2).

Data on habit, habitat, and ecology are lacking for the vast majority of the collections examined.

Acrostichaceae

Acrostichum L.

Acrostichum aureum L., *Sp. pl.* 2: 1069 (1753); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 85 (1944); Benl in *Acta Bot. Barcinon.* 38: 22 (1988).

SÃO TOMÉ. Porto Alegre, *Chevalier* 14194bis (P!), 14200 (P!), salt marshes, *Espírito Santo* 5131 (LISC!, LISJC!); Ilhéu das Rolas, *F.A.E. (Quintas)* 69 (BM!, LISU!), *Quintas* s.n. (COI!); Porto Alegre, Praia Jalé, Rio Malanza, swamp, *Matos* 7663 (LISC!); Perseverança, *Rose* 538 (P!). **PRÍNCIPE.** Santo António, salt marshes, *Espírito Santo* 5170 (LISC!, LISJC!), mangrove, *Monod* 12191 (BM!), mangrove, *Rose* 425 (P!); Rio Papagaio, swampy border, *Quintas* 1 (BM!, COI!); Praia General Fonseca, *Rozeira* 430 (PO!); s.l., *Welwitsch* 15 (BM!, LISU!).

DISTRIBUTION. Pantropical.

Adiantaceae

Adiantum L.

Adiantum mettenii Kuhn, *Filic. afr.*: 65 (1868) nomen; in *Jahrb. Königl. Bot. Gart. Berl.* 1: 338 (1881).

Adiantum soboliferum sensu auct. non Wall. ex Hook., *Sp. fil.* 2: 13, t. 74A (1858); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 82 (1944).

SÃO TOMÉ. Monte Forte, 50 m, *Quintas* s.n. (COI!, K!); s.l., *Don* s.n. (BM!).

DISTRIBUTION. Tropical Africa and Madagascar, extending to India and Philippines.

NOTE. This taxon has not been recorded in the islands since the nineteenth century.

Adiantum philippense L., *Sp. pl.* 2: 1094 (1753); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 82 (1944); Alston in Exell, *Suppl. Cat. Vasc. Pl. S. Tomé*: 7 (1956); Benl in *Acta Bot. Barcinon.* 32: 26 (1980).

SÃO TOMÉ. Casal Pires, waterfall, 200 m, *Espírito Santo* 110 (BM!, COI!, LISJC!); Boa Entrada, *Chevalier* 14518 (P); Rio do Ouro, 110 m, *Quintas* 1249 (BM!, COI!, LISJC!); Água Coimbra, 100 m, *Quintas* s.n. (COI!), *Moller & Quintas* s.n. (LISU!); Diogo Vaz, *Rozeira* 518 (PO!); Santa Catarina, between main house and Lembá, *Rozeira* 840 (PO!).

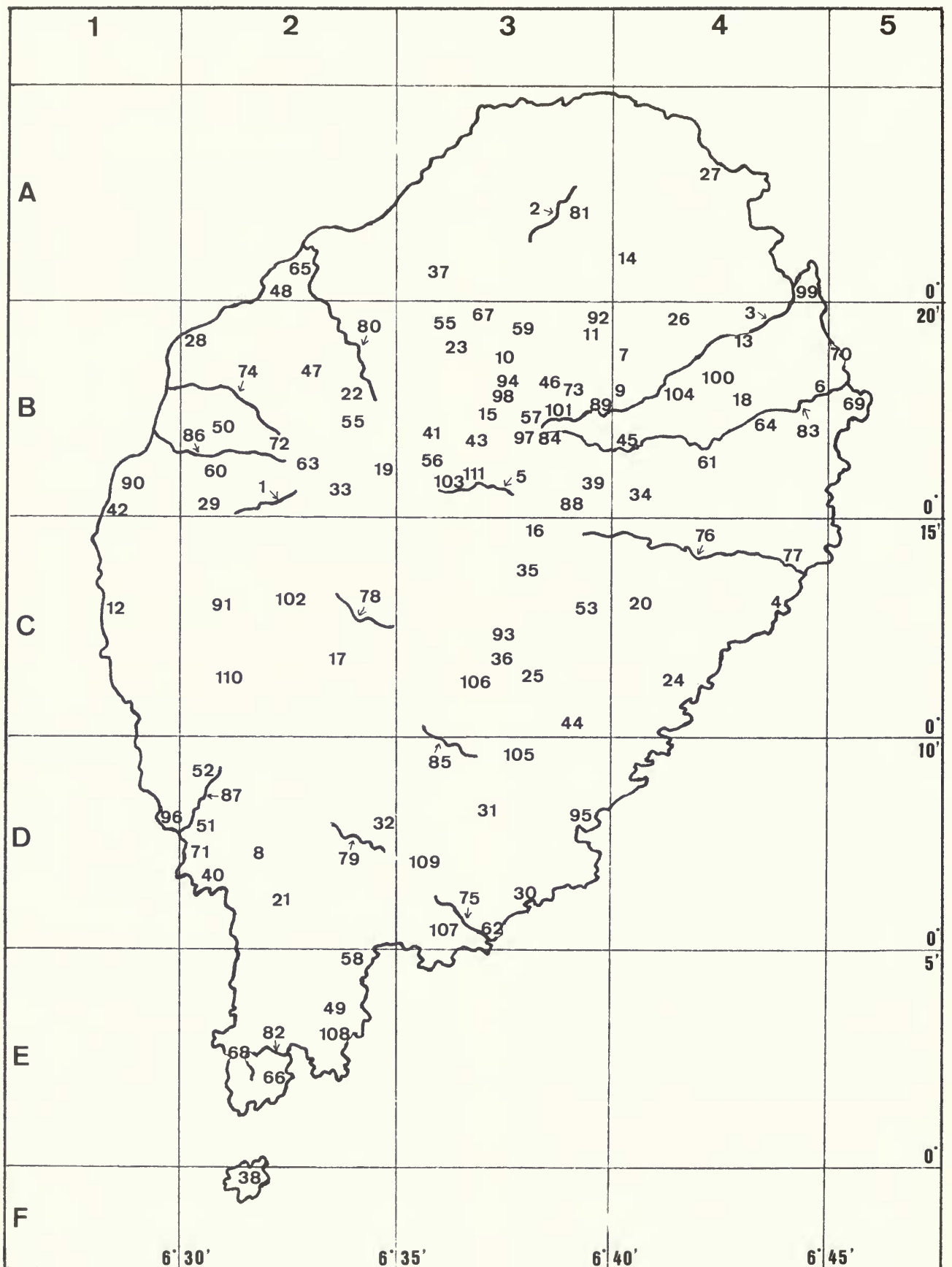
DISTRIBUTION. Palaeotropical.

Adiantum raddianum C. Presl, *Tent. pterid.*: 158 (1836); Alston in Exell, *Suppl. Cat. Vasc. Pl. S. Tomé*: 7 (1956); Alston in Exell & Rozeira in *Conf. Int. Afr. Oc.* 3: 79 (1958).

SÃO TOMÉ. Quinta da Graça, 600 m, *Espírito Santo* 124 (BM!, COI!, LISJC!); Pouso Alto, 490 m, *Espírito Santo* 4278 (LISC!, LISJC!); Monte Café, São Carlos, secondary forest, *Espírito Santo* 5048 (LISC!, LISJC!); São Nicolau, waterfall, on wet rocks, *Espírito Santo* 5178 (LISC!, LISJC!); Saudade, 900 m, *Exell* 399 (BM!, COI!); Ponta Figo, on the way to Morro Vilela, *Lains e Silva* 357 (LISU!); between Pico and Monte Castro, 1200–1800 m, mountain rainforest, *Lejoly* 95/13 (LISC!); Monte Café, 1010 m, *Monod* 11694 (BM!, COI!), *Oliveira & Noronha* s.n. (LISU!); NW of Pico, 1000–1200 m, *Monod* 12263 (BM!, COI!); Água Izé, common, *Pinto Basto* 199 (LISC!); Trás-os-Montes, Calvário, *Rozeira* 582 (PO!).

PRÍNCIPE. Esperança, near Ribeira Camarão, *Rozeira* 354 (PO!).

DISTRIBUTION. Cultivated American species, escaped and naturalized.



Adiantum vogelii Mett. ex Keyserl. in *Mém. Acad. Imp. Sci. Saint Pétersbourg ser. 7*, **22**(2): 8, 31 (1875); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 83 (1944); Tardieu-Blot in Aubrév., *Fl. Cameroun* **3**: 147 (1964); Benl in *Acta Bot. Barcinon.* **32**: 26 (1980).

PRÍNCIPE. Santo António, *Monod* 12072 (BM!, COI!); Berimbau, *Newton* 18 (BM!, COI!, K!); *Newton* s.n. (K!); Cimáló, *Quintas* 36 (BM!, COI!); Esperança, between Montalegre and Máquina, *Rozeira* 378 (PO!); s.l., *Souza* s.n. (COI!).

DISTRIBUTION. W. tropical Africa to Angola, Zanzibar.

Aspidiaceae (=Dryopteridaceae)

Ctenitis (C. Chr.) C. Chr.

Ctenitis cirrhosa (Schum.) Ching in *Sunyatsenia* **5**: 250 (1940); Benl in *Acta Bot. Barcinon.* **40**: 41 (1991).

Dryopteris crinobulbon (Hook.) C. Chr., *Index filic.*, Suppl. 3: 84 (1934); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 61 (1944).

SÃO TOMÉ. Pico, 1850 m, *Mann* s.n. (B, K!-type of *Dryopteris crinobulbon*).

DISTRIBUTION. Tropical and SE Africa, Madagascar, Comoros and Mascarene Is.

NOTE. This taxon has not been recorded in the islands since the nineteenth century.

Ctenitis lanuginosa (Willd. ex Kaulf.) Copel., *Gen. fil.*: 124 (1947); Benl in *Acta Bot. Barcinon.* **40**: 41 (1991).

Dryopteris lanuginosa (Willd. ex Kaulf.) C. Chr., *Index filic.*: 273 (1905); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 62 (1944).

SÃO TOMÉ. S.l., *Mann* s.n. (K-not found).

DISTRIBUTION. Tropical and subtropical Africa, Madagascar, Comoros, Seychelles and Mascarene Is.

NOTE. This taxon has not been recorded in the islands since the nineteenth century.

Didymochlaena Desv.

Didymochlaena truncatula (Sw.) J. Sm. in *J. Bot. (Hooker)* **4**: 196 (1841); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 66 (1944); Tardieu-Blot in Aubrév., *Fl. Cameroun* **3**: 254 (1964); Benl in *Acta Bot. Barcinon.* **40**: 35 (1991).

SÃO TOMÉ. Rio Contador, 1270–1350 m, *F.A.E. (Moller)* 36 (BM!, LISU!); Trás-os-Montes, *Gama* s.n. (COI!); *Mollers* s.n. (COI!); Macambrará, 1270 m, *Moller* s.n. (COI!); Sela do Camelo, near Lembá, 200 m, *Rozeira* 3450 (PO!); Monte Café, 760–850 m, *Welwitsch* 67 (BM!, K!, LISU!).

DISTRIBUTION. Pantropical.

Dryopteris Adans.

Dryopteris pentheri (Krasser) C. Chr., *Index filic.*: 284 (1905); Alston in Exell in *Bull. Inst. Franç. Afrique Noire ser. A*, **21**: 447 (1959); Benl in *Acta Bot. Barcinon.* **40**: 36 (1991).

Dryopteris oligantha sensu auct. non (Desv.) C. Chr., *Index filic.* Suppl. 3: 93 (1934); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 62 (1944).

SÃO TOMÉ. Pico, *Chevalier* 13651 (P), 14290 (P), *Moller* s.n. (COI-not found, P!); between Monte Café and Pico, *Chevalier* 14580 (P); Macambrará, *Exell* 131 (BM), 135 (BM); Trás-os-Montes, *Gama* s.n. (COI-not found), 800 m, *Quintas* 1286 (BM!, COI-not found), *Rozeira* 554 (K!, PO!); between Pico and Monte Castro, 6 km S. of Ponta Figo, mountain rainforest, 1200–1800 m, *Lejoly* 95/9 (LISC!); between Monte Quinas and Quinas Altas, *Monod* 12007 (BM!); Monte Café, 1010 m, *Monod* 11696 (BM!); Lagoa Amélia, 1300 m, *Quintas* 1291 (BM!, COI-not found), *Rose* 199 (P!); São Nicolau, near waterfall, *Rozeira* 182 (K!, PO!); Santa Catarina, Lembá, *Rozeira* 856 (K!); s.l., 1850 m, *Mann* (K!), *F.A.E. (Moller)* 39 (BM!, LISU!), *Moller* s.n. (COI-not found), *Quintas* 10 (K!).

DISTRIBUTION. Tropical and southern Africa.

Fig. 1 São Tomé

1. Água Cardoso-2B
2. Água Coimbra-3A
3. Água Grande-3B-4B-4A
4. Água Izé (Roça)-4C
5. Água Pinhão-3B
6. Almas-4B
7. António Soares-4B
8. Bacelar-2D
9. Bãtepá-4B
10. Bemposta (Roça)-3B
11. Benfica (Roça)-3B
12. Bindá (Roça)-1C
13. Blu-blu-4B
14. Boa Entrada (Roça)-4A
15. Bom Sucesso (Roça)-3B
16. Bombaim (Roça)-3C
17. Cabumbé-2C
18. Caixão Grande-4B
19. Calvário-2B
20. Cantagalo (Roça)-4C
21. Cão Pequeno-2D
22. Cascata-2B

23. Chamiço-3B
24. Colónia Açoreana (Roça)-4C
25. Cruzeiro (Roça)-3C
26. Diana (Roça)-4B
27. Diogo Nunes-4A
28. Diogo Vaz (Roça)-2B
29. Dona Amélia (Roça)-2B
30. Dona Augusta (Roça)-3D
31. Dona Eugénia (Roça)-3D
32. Ermelinda (Roça)-2D
33. Estação Sousa-2B
34. Famosa-4B
35. Formoso-3C
36. Guaiquil (Roça)-3C
37. Guarda (Roça)-3A
38. Ilhéu das Rolas-2E-2F
39. Java (Roça)-3B
40. Jôu (Roça)-2D
41. Lagoa Amélia-3B
42. Lembá (Roça)-1B
43. Macambrará (Roça)-3B
44. Maria Fernandes-3C

45. Milagrosa (Roça)-4B
46. Monte Café (Roça)-3B
47. Monte Castro-2B
48. Monte Forte (Roça)-2A
49. Monte Mário (Roça)-2E
50. Monte Quinas-2B
51. Monte Rosa (Roça)-2D
52. Monte Verde-2D
53. Morro Cantagalo-3C
54. Morro Vigia -3B
55. Morro Vilela-2B
56. Nova Ceilão (Roça)-3B
57. Nova Moca (Roça)-3B
58. Novo Brasil (Roça)-2E
59. Novo Destino (Roça)-3B
60. Paga Fogo (Roça)-2B
61. Pedroma (Roça)-4B
62. Perseverança (Roça)-3D
63. Pico-2B
64. Pinheira (Roça)-4B
65. Ponta Figo (Roça)-2A
66. Porto Alegre (Roça)-2E
67. Pouso Alto (Roça)-3B

68. Praia Jalé-2E
69. Praia Melão (Roça)-5B
70. Praia Pantufo-5B
71. Quijá-2D
72. Quinas Altas -2B
73. Quinta da Graça (Roça)-3B
74. Ribeira Moça-1B-2B
75. Ribeira Peixe-3D
76. Rio Abade-3C-4C
77. Rio Abade (bridge) -4C
78. Rio Campos-2C
79. Rio Caué-2D
80. Rio Contador-2A-2B
81. Rio do Ouro (Roça)-3A
82. Rio Malanza-2E
83. Rio Manuel Jorge-3B-4B-5B
84. Rio Manuel Jorge (waterfall)-3B
85. Rio Miranda Guedes-3C-3D
86. Rio Paga Fogo-1B-2B
87. Rio Xufexufe-2D
88. Roça Nova (Roça)-3B

89. Rodia (Roça)-3B
90. Santa Catarina (Roça)-1B
91. Santa Irene (Roça)-2C
92. Santa Margarida (Roça)-3B
93. Santelmo (Roça)-3C
94. São Carlos (Roça)-3B
95. São João dos Angolares-3D
96. São Miguel (Roça)-1D
97. São Nicolau (Roça)-3B
98. São Pedro-3B
99. São Tomé -4A
100. São Vicente-4B
101. Saudade (Roça)-3B
102. Sela do Camelo-2C
103. Trás-os-Montes (Roça)-3B
104. Trindade-4B
105. Vale Carmo (Roça)-3D
106. Vieira Machado (Roça)-3C
107. Vila Aida (Roça)-3D
108. Vila Conceição (Roça)-2E
109. Vila José (Roça)-3D
110. Zagaia-2C
111. Zampalma (Roça)-3B.

The following collecting localities could not be located: Água Telha (Diogo Vaz), Água Telha (near Ribeira Moça), Casa do Pico (1935 m alt.), Casal Pires, Correia, Monte Figo, Magodinho, Morro Pempem (Trás-os-Montes), Quingombó, Santa Maria, Rio Santo António.

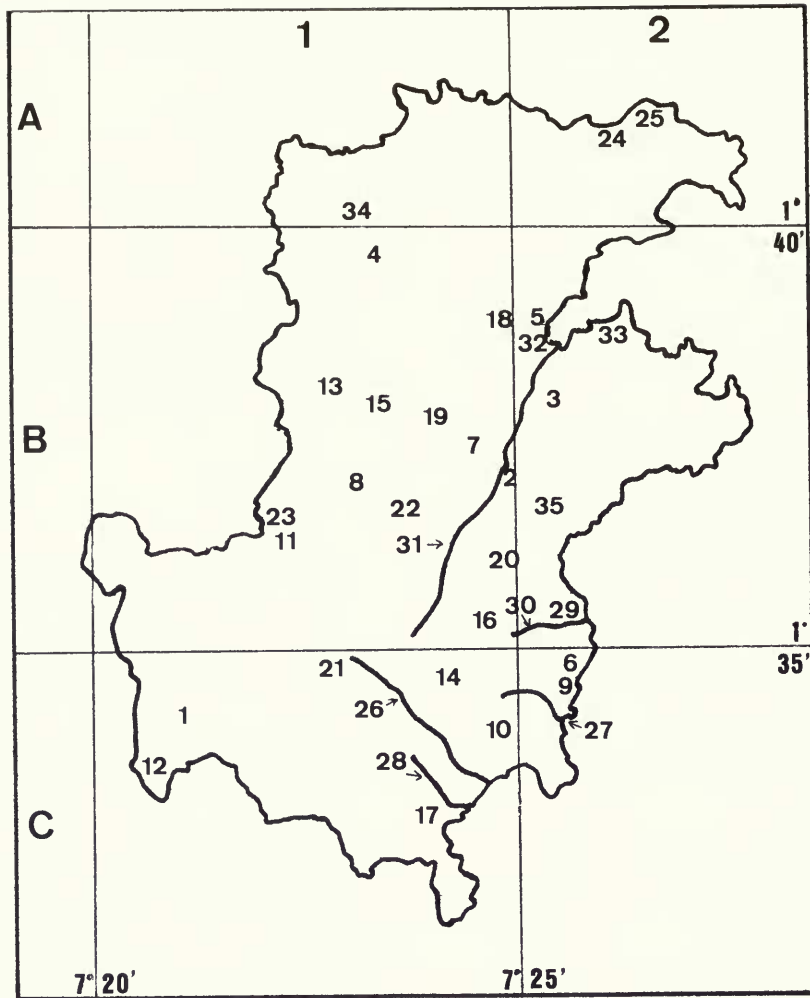


Fig. 2 Príncipe

- | | | | | |
|-------------------------|-----------------------------------|------------------------------|----------------------------|----------------------------|
| 1. Barriga Branca-1C | 8. Fundão-1B | 14. Mençorne-1C | 21. Pico-1C | 28. Ribeira Chimboto-1C |
| 2. Bela Vista (Roça)-1B | 9. General Fonseca-2C | 15. Montalegre (Roça)-1B | 22. Pico Papagaio-1B | 29. Ribeira Fria (Roça)-2B |
| 3. Berimbau-2B | 10. Infante D. Henrique (Roça)-1C | 16. Morro do Leste-1B | 23. Praia da Lapa-1B | 30. Ribeira Jambere-1B-2B |
| 4. Cajamanga-1B | 11. Lapa (Roça)-1B | 17. Neves Ferreira (Roça)-1C | 24. Praia das Burras-2A | 31. Rio Papagaio-1B-2B |
| 5. Cimãlô-2B | 12. Mamas-1C | 18. Ôquê Gaspar (Roça)-1B | 25. Precipício-2A | 32. Santo António-2B |
| 6. Dois Irmãos-2C | 13. Máquina-1B | 19. Ôquê Nazaré-1B | 26. Ribeira Bibi-1C | 33. São João (Roça)-2B |
| 7. Esperança (Roça)-1B | | 20. Ôquê Pipi-1B | 27. Ribeira Cambungo-1C-2C | 34. Sundi (Roça)-1A |
| | | | | 35. Terreiro Velho-2B. |

The following collecting localities could not be located: Porto Real, Ribeira Camarão and Rio Bambu-Porco.

Lastreopsis Ching

Lastreopsis aff. **currori** (Mett. ex Kuhn) Tindale in *Victoria Naturalist* 73: 184 (1957); Tindale in *Contr. New South Wales Natl. Herb.* 3: 338 (1965).

Aspidium nigrisianum Mett. ex Kuhn, *Filic. afr.*: 138 (1868).

Dryopteris nigrisiana (Mett. ex Kuhn) Kuntze, *Revis. gen. pl.* 2: 813 (1891); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 62 (1944).

Ctenitis nigrisiana (Mett. ex Kuhn) Alston in *Bol. Soc. Brot., ser. 2*, 30: 12 (1956).

PRÍNCIPE. Rio Bambu-Porco, 60 m, *Navel* 138 (LISU!), I41B (not found); Pico, *Rozeira* 2607 (PO!); s.l., *Barter* 1906 (K-type of *Aspidium nigrisianum*, not found).

Tectaria Cav.

Tectaria angelicifolia (Schum.) Copel. in *Philipp. J. Sci., ser. C, Bot.* 2: 410 (1907); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 66

(1944); Alston in Exell, *Suppl. Cat. Vasc. Pl. S. Tomé*: 7 (1956); Benl in *Acta Bot. Barcinon.* 40: 55 (1991).

SÃO TOMÉ. São Vicente, 200 m, *Espírito Santo* 42 (BM!, COI!, LISJC!); Bombaim, *Monod* 11886 (BM!); between São Tomé and Monte Café, *Welwitsch* 62 (BM!, LISU!); s.l., *F.A.E. (Moller & Quintas)* 43 p.p. (BM!, COI!, K also *Moller* 32!, LISU!), 550 m, *Welwitsch* s.n. (K!).

PRÍNCIPE. S.l., *Welwitsch* 12b (BM!, LISU!).

DISTRIBUTION. W. and Central tropical Africa

Tectaria camerooniana (Hook.) Alston in *J. Bot.* 77: 288 (1939); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 67 (1944); Tardieu-Blot in Aubrév., *Fl. Cameroun* 3: 291 (1964); Benl in *Acta Bot. Barcinon.* 40: 56 (1991).

SÃO TOMÉ. Macambrará to Zampalma, 900 m, ground fern, *Exell* 293 (BM!), 294 (BM!, COI!); between Bom Sucesso and Lagoa Amélia, primary forest, 1350–1420 m, *Matos & Van Essche* 7296 (LISC!); above Monte Café, 1010 m, *Monod* 11693 (BM!); between São Pedro and Lagoa Amélia, 1050

m, *Monod* 11711 (BM!); Calvário, 1200 m, *Monod* 11815 (BM!), 11817 (BM!); Lagoa Amélia, *Rose* 232 (P!); s.l., *F.A.E. (Moller)* 44 (BM!, COI!, LISJC!, LISU!, P!).

DISTRIBUTION. W. and Central tropical Africa.

Tectaria fernandensis (Baker) C. Chr., *Index filic.*, Suppl. 3: 179 (1934); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 67 (1944); Benl in *Acta Bot. Barcinon.* 40: 57 (1991).

SÃO TOMÉ. Boa Entrada, *Chevalier* 14360 (P!), 14517 (P!); SW region, *Chevalier* 14591 (P!), 14617 (P!); São Miguel, 50 m, *Espírito Santo* 4742 (LISJC!); between Pico and Monte Castro, 6 km S. of Ponta Figo, mountain rainforest, 1200–1800 m, *Lejoly* 95/10 (LISC!); São Miguel, Monte Verde, secondary forest, 10–150 m, *Lejoly* 95/84 (LISC!); Pedroma, *Mocquers* 125/126 (P!); São João dos Angolares, 80 m, *Newton* s.n. (COI!), 50 m, *Quintas* s.n. (COI!); Água Izé, common, *Pinto Basto* 211 (LISC!); Perseverança, *Rose* 537 (P!); s.l., *Don* s.n. (BM!), *F.A.E. (Moller & Quintas)* 43 p.p. (LISJC!).

PRÍNCIPE. Between Ôquê Pipi and Morro do Leste, secondary forest, 350 m, ground fern, *Exell* 564 (BM!, COI!), 565 (BM!, COI!); Pico Papagaio, 600 m, ground fern, *Exell* 684 (BM!); s.l., *Barter* 1907 (K!), *Welwitsch* 12 (BM!, K!, LISU!).

DISTRIBUTION. W. and Central tropical Africa.

Triplophyllum Holttum

Triplophyllum buchholzii (Kuhn) Holttum in *Kew Bull.* 41: 251 (1986).

Tectaria buchholzii (Kuhn) Copel. in *Philipp. J. Sci.* 38: 138 (1929) 'buckholzii'; Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 67 (1944).

Ctenitis buchholzii (Kuhn) Alston in *Bol. Soc. Brot., ser. 2*, 30: 11 (1956); Alston in Exell in *Bull. Inst. Franç. Afrique Noire ser. A*, 21: 448 (1959).

PRÍNCIPE. Pico, 500–600 m, *Monod* 12119 (BM!), 800 m, *Rozeira* 886 (PO!), 911 (PO!), 2617 (PO!); Rio Bambu-Porco, 60 m, *Navel* 139B (LISU!); Infante D. Henrique, 250 m, *Rozeira* 2300 (PO!); Infante D. Henrique, old path to Ribeira Bibi, *Rozeira* 2391 (PO!); Mecomne, 200 m, *Rozeira* 2411 (PO!).

DISTRIBUTION. Ivory Coast to Zaïre.

Triplophyllum fraternum (Mett. ex Kuhn) Holttum in *Kew Bull.* 41: 253 (1986).

Aspidium fraternum Mett. ex Kuhn, *Filic. afr.*: 132 (1868).

Ctenitisfraterna (Mett.) Tardieu in *Notul. Syst. (Paris)* 14: 342 (1953).

var. **elongatum** (Hook.) Holttum in *Kew Bull.* 41: 254 (1986).

Nephrodium subquinqefidum (P. Beauv.) Hook., *Sp. fil.* 4: 130 (1862) var. *elongatum* Hook., *Sp. fil.* 4: 130 (1862).

PRÍNCIPE. S.l., *Mann* 1861 (K!)-lectotype of *Nephrodium subquinqefidum* var. *elongatum*.

DISTRIBUTION. Endemic.

NOTES. The following collections are unlocalized but may have been collected in Príncipe, since there are no further collections from the continent: Niger Exped., *Barter* s.n. (K!), s.l., *Currer* s.n. (K!).

Based on the same type specimen, Pichi-Sermolli (1985) considered this fern to be a new species (*Ctenitis attenuata* Pic. Serm.) and later (Pichi-Sermolli, 1991) transferred it to *Triplophyllum* with the name *T. attenuatum* (Pic. Serm.) Pic. Serm.

This taxon has not been recorded in the islands since the nineteenth century.

Triplophyllum jenseniae (C. Chr.) Holttum in *Kew Bull.* 41: 253 (1986).

PRÍNCIPE. Pico, 850 m, *Rozeira* 1021 (PO!).

DISTRIBUTION. W. and Central tropical Africa.

Triplophyllum principis Holttum in *Kew Bull.* 41: 246 (1986).

Dryopteris variabilis (Hook.) Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 64 (1944) var. *barteri* (Hook.) Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 64 (1944).

PRÍNCIPE. Ôquê Pipi, secondary forest, 300 m, ground fern, *Exell* 546 (BM!, COI!); between Ôquê Pipi and Morro do Leste, secondary forest, 350 m, ground fern, *Exell* 562 (BM!, COI!); above Infante D. Henrique, secondary forest, 300 m, ground fern, *Exell* 618 (BM!, COI!), 624 (BM!); Rio Bambu-Porco, 60 m, *Navel* 141a (LISU!); Ôquê Nazaré, 500 m, *Newton* s.n. (COI!); Infante D. Henrique, *Rose* 402 (P!), *Rozeira* 2370 (PO!); Neves Ferreira, *Rozeira* 2204A (PO!), 2205 (PO!); between Barriga Branca and Mamas, *Rozeira* 2552 (PO!); Mecomne, *Rozeira* 4299 (PO!); s.l., *Barter* 1927 (BM!, K!)-holotype, *Wilde* et al. 371 (WAG, cited by Holttum, l.c.).

DISTRIBUTION. Endemic.

Triplophyllum protensum (Afzel. ex Sw.) Holttum in *Kew Bull.* 41: 247 (1986); Benl in *Acta Bot. Barcinon.* 40: 45 (1991).

Aspidium subquinqefidum P. Beauv., *Fl. Oware* 1: 34, t. 19 (1805). *Dryopteris protensa* (Afzel. ex Sw.) C. Chr., *Index filic.*: 286 (1905);

Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 63 (1944).

SÃO TOMÉ. Bemposta, 600 m, *Moller* s.n. (BM!, COI!).

PRÍNCIPE. SW Esperança, 200 m, *Exell* 671a (BM!); São João, *Newton* s.n. (COI!); Infante D. Henrique, old path to Ribeira Bibi, *Rozeira* 2390A (PO!); Pico Papagaio, *Welwitsch* 16 (BM!, LISU!); s.l., *Souza* s.n. (COI!).

DISTRIBUTION. Widespread in W. and Central tropical Africa.

NOTE. Pichi-Sermolli (1991) considered that the type of *Triplophyllum protensum* was a hybrid and described this taxon as a new species, *T. heudelottii* Pic. Serm. He considered *Triplophyllum subquinqefidum* (P. Beauv.) Pic. Serm. to be a distinct species. Of these two taxa only the latter was recorded for S. Tomé and Príncipe.

Triplophyllum securidiforme (Hook.) Holttum in *Kew Bull.* 41: 242 (1986); Benl in *Acta Bot. Barcinon.* 40: 43 (1991).

Dryopteris securidiformis (Hook.) C. Chr., *Index filic.*: 291 (1905).

D. securidiformis var. *nana* Bonap., *Not. pterid.* 14: 211 (1923); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 64 (1944).

Triplophyllum securidiforme var. *nanum* (Bonap.) Holttum in *Kew Bull.* 41: 243 (1986).

SÃO TOMÉ. Macambrará, primary forest, 1050–1200 m, *Exell* 103 (BM!), 151 (BM!); Monte Café, 800 m, *Moller* s.n. (COI!); between Monte Quinas and Quinas Altas, *Monod* 12013 (BM!); São João dos Angolares, 200 m, *Quintas* s.n. (COI!); Ribeira Moça, *Rozeira* 2119 (PO!); between Ermelinda and Cabumbé, *Rozeira* 2819 (PO!), 2823 (PO!); Cantagalo, 400 m, *Rozeira* 3152 (PO!); Sela do Camelo, 200 m, *Rozeira* 3451 (PO!); Formoso, *Rozeira* 3537 (PO!); near Rio Miranda Guedes, *Rozeira* 3639 (PO!); Vieira Machado, 400 m, *Rozeira* 3666 (PO!); s.l., *F.A.E. (Moller & Quintas)* 40 (BM!, COI!, K also *Quintas* 44!, LISU!, P!).

PRÍNCIPE. Rio Bambu-Porco, 60 m, *Navel* 139A (LISU!), 141C (not found); Infante D. Henrique, *Rose* 409 (P!), 414 (P!); Neves Ferreira, *Rozeira* 2201 (PO!); Ribeira Camarão, *Rozeira* 2219 (PO!), 2220 (PO!), *Rozeira* 2268 (PO!); between Ribeira Jambere and Ribeira Fria, *Rozeira* 2237 (PO!); near Ribeira Cambungo, *Rozeira* 2239 (PO!); Infante D. Henrique, old path to Ribeira Bibi, *Rozeira* 2305 (PO!), 2326 (PO!); Infante D. Henrique, *Rozeira* 2374 (PO!); Mecomne, *Rozeira* 2408 (PO!); between Barriga Branca and Mamas, *Rozeira* 2562 (PO!); s.l., *Barter* 1929 (P!), *Mann* s.n. (K-not found).

DISTRIBUTION. W. and Central tropical Africa.

Aspleniaceae

Asplenium L.

Asplenium aethiopicum (Burm.f.) Bech. in *Candollea* **6**: 22 (1935); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 74 (1944); Benl in *Acta Bot. Barcinon.* **40**: 24 (1991).

SÃO TOMÉ. Pico, primary forest, 1987 m, epiphyte, *Matos & Van Essche* 7381 (LISC!); Lagoa Amélia, 1430 m, epiphyte, *Matos* 7495 (LISC!); between Estação Sousa and Pico, primary forest, 1700 m, epiphyte, *Matos* 7554 (LISC!); Macambrará, 1270 m, *Moller* s.n. (COI!); Lagoa Amélia to São Pedro, 1200 m, *Quintas* 1392 (BM!, COI!); Monte Café, *Quintas* 1392 (LISJC!); s.l., *F.A.E. (Moller)* 31 (BM!, K!, LISU!), *Moller* s.n. (COI!).

DISTRIBUTION. Pantropical and subtropical.

Asplenium africanum Desv. in *Ges. Naturf. Freunde Berlin Mag. Neuesten Entdeck. Gesammten Naturk.* **5**: 322 (1811); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 74 (1944); Benl in *Acta Bot. Barcinon.* **40**: 6 (1991).

SÃO TOMÉ. Ilhéu das Rolas, *Greeff* s.n. (B); near São Tomé, 8 m, *Moller* s.n. (COI!); Água Izé, frequent epiphyte, *Pinto Basto* 218 (LISC!); s.l., *Don* s.n. (BM!). *F.A.E. (Moller)* 21 (BM!, LISU!, P!).

PRÍNCIPE. Above Neves Ferreira, 200–350 m, epiphyte, *Exell* 650 (BM!, COI!); s.l., *Newton* (not found at COI!).

DISTRIBUTION. W., Central, and E. Africa.

Asplenium anisophyllum Kunze in *Linnaea* **10**: 511 (1836).

Asplenium geppii Carruth., *Cat. Afr. Pl.* **2**: 269 (1901); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 78 (1944).

SÃO TOMÉ. Near São Pedro, 1280 m, *F.A.E. (Moller)* 26 (BM!, K also *Moller* 23!, LISU!); between Pico and Monte Castro, 6 km S. of Ponta Figo, mountain forest, 1200–1800 m, *Lejoly* 95/18 (LISC!); NW of Pico, 1350–1600 m, *Monod* 12226 (BM!); Lagoa Amélia, *Quintas* 1385 (BM!, COI!), *Rose* 206 (P!).

DISTRIBUTION. W. tropical Africa.

Asplenium barteri Hook., *Sec. cent. ferns*: t. 75 (1860); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 75 (1944); Tardieu-Blot in Aubrév., *Fl. Cameroun* **3**: 192 (1964); Benl in *Acta Bot. Barcinon.* **40**: 13 (1991).

SÃO TOMÉ. São Miguel, *Chevalier* 14491bis (P-not found); SW region, *Chevalier* 14618 (P!); Porto Alegre, *Chevalier* 14619bis (P!); Saudade and Pico, *F.A.E. (Moller)* 25 p.p. (BM!); São João dos Angolares, 80 m, *Newton* s.n. (BM!, COI!); Cruzeiro, 300 m, *Thorold* 2065 (BM!); s.l., *Matos* s.n. (LISC!).

PRÍNCIPE. Esperança, plantation, 100 m, on rocks, *Exell* 677 (BM!, COI!); W. of Pico, above Lapa, below 250 m, *Monod* 12100 (BM!); Pico, near Lapa, below 250 m, *Monod* 12103 (BM!); São João, 450 m, *Newton* 28 (BM!, COI!); Lapa (Oeste), *Quintas* 25 (BM!, COI!); s.l., *Barter* 1909 (K!), 1910 (K!).

DISTRIBUTION. Widespread in tropical Africa.

Asplenium biafranum Alston & F. Ballard in *Hooker's Icon. pl.* **34**: t. 3367 (1938); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 75 (1944); Tardieu-Blot in Aubrév., *Fl. Cameroun* **3**: 200 (1964); Benl in *Acta Bot. Barcinon.* **40**: 23 (1991).

SÃO TOMÉ. Between Monte Café and Pico, *Chevalier* 14543 (P!); Macambrará, primary forest, 1050–1200 m, *Exell* 154 (BM!); Pico, primary forest, 1900–2020 m, *Lejoly* 94/581 (LISC!); between Lagoa Amélia and Chamiço, *Matos* 7528 (LISC!); Santa Maria, 1350 m, *Moller* s.n. (COI!);

Lagoa Amélia, 1400 m, *Monod* 11747 (BM!); Calvário, 1560 m, *Monod* 11834 (BM!); between Casa do Pico and Pico, 1950 m, *Monod* 11958 (BM!).

DISTRIBUTION. Benin, Bioko, Nigeria, Cameroun.

Asplenium cuneatum Lam., *Encycl.* **2**: 309 (1786); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 75 (1944); Tardieu-Blot in Aubrév., *Fl. Cameroun* **3**: 219 (1964).

SÃO TOMÉ. Trás-os-Montes, Morro Pempem, 1200 m, *Quintas* 1387 (BM!, COI!).

DISTRIBUTION. W. tropical Africa, tropical America, Polynesia.

NOTE. This taxon has not been recorded in the islands since the nineteenth century.

Asplenium currorii Hook., *Sp. fil.* **3**: 82 (1860); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 75 (1944); Alston in Exell in *Bull. Inst. Franç. Afrique Noire ser. A*, **21**: 445 (1959); Tardieu-Blot in Aubrév., *Fl. Cameroun* **3**: 180 (1964).

SÃO TOMÉ. Macambrará, primary forest, 1050–1200 m, epiphyte, *Exell* 172 (BM!); between Pico and Monte Castro, 6 km S. of Ponta Figo, mountain forest, 1200–1800 m, *Lejoly* 95/29 (LISC!); between Bom Sucesso and Lagoa Amélia, primary forest, 1350–1420 m, *Matos & Van Essche* 7291 (LISC!); *Moller* s.n. (COI!); Lagoa Amélia, 1500 m, *Monod* 11722 (BM!); s.l., 550 m, *Welwitsch* 64 (BM!, LISU!).

PRÍNCIPE. Pico Papagaio, *Welwitsch* 24a (BM!); s.l., *Barter* 1900 (K-not found), *Mann* 1861 (K!), *Welwitsch* 24 (BM!, K-not found, LISU!).

DISTRIBUTION. W. tropical Africa.

Asplenium dregeanum Kunze in *Linnaea* **10**: 517 (1836); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 76 (1944); Alston in Exell, *Suppl. Cat. Vasc. Pl. S. Tomé*: 7 (1956).

subsp. **brachypterum** (Kunze ex Houlston & T. Moore) Pic. Serm. in *Bull. Jard. Bot. Belg.* **55**: 130 (1985); Benl in *Acta Bot. Barcinon.* **40**: 28 (1991).

SÃO TOMÉ. Monte Café, 1200 m, epiphyte, *Espírito Santo* 164 (BM!, COI!, LISJC!); Macambrará, primary forest, 1050–1200 m, *Exell* 96 (BM!), 126 (BM!, COI!); Lagoa Amélia, 1200–1400 m, *Lains e Silva* 83 (LISU!), *Matos* 7493 (LISC!), 1400 m, *Monod* 11741 (BM!), 1400 m, *Quintas* 1349 (BM!, COI!), *Rose* 224 (P!), 240 (P!), *Rozeira* 154 (PO!), 1161 (PO!); Pico, primary forest, 1900–2020 m, epiphyte, *Lejoly* 94/580 (LISC!), 1950 m, *Moller* s.n. (COI!); between Bom Sucesso and Lagoa Amélia, primary forest, 1350–1400 m, epiphyte, *Matos & Van Essche* 7287 (LISC!); between São Pedro and Lagoa Amélia, 1050 m, *Monod* 11705 (BM!, COI!); Calvário, 1400 m, *Monod* 11852 (BM!); s.l., *F.A.E. (Moller)* 33 (BM!, COI!, K!, LISJC!, LISU!), *Mann* s.n. (K!), *Moller* s.n. (COI!).

DISTRIBUTION. Zaïre, Rwanda, Burundi.

Asplenium emarginatum P. Beauv., *Fl. Oware* **2**: 6, t. 61 (1808); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 76 (1944); Alston in Exell, *Suppl. Cat. Vasc. Pl. S. Tomé*: 7 (1956); Tardieu-Blot in Aubrév., *Fl. Cameroun* **3**: 192 (1964); Benl in *Acta Bot. Barcinon.* **40**: 10 (1991).

SÃO TOMÉ. São Vicente, 200 m, common, *Espírito Santo* 35 (BM!, COI!, LISJC!, LISJC!); Monte Café, 800 m, *Moller* 349 (BM!, COI!); Santa Margarida, António Soares, *Rozeira* 1225 (PO!); s.l., *Don* s.n. (BM!), 800 m, *Quintas* 8 (K!).

PRÍNCIPE? (Beauvois, l.c.).

DISTRIBUTION. Widespread in tropical Africa.

Asplenium erectum Bory ex Willd., *Sp. pl.* **5**: 328 (1810).

var. **usambarense** (Hieron.) Schelpe in *Bol. Soc. Brot., ser. 2*, **41**:

207 (1967); Schelpe in Exell & Launert, *Fl. Zamb., Pteridophyta*: 176 (1970); Benl in *Acta Bot. Barcinon.* **40**: 16 (1991).

Asplenium quintasii Gand. in *Bull. Soc. Bot. France* **66**: 305 (1919); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 79 (1944); Tardieu-Blot in Aubrév., *Fl. Cameroun* **3**: 198 (1964).

SÃO TOMÉ. Monte Café, *Chevalier* 13673 (BM!, P!); Pico, 1850 m, *Exell* 345a (BM!), *Newton* s.n. (BM!, COI!), 1650 m, *Quintas* 1342 (BM!, COI!); type of *Asplenium quintasii*; between Pico and Monte Castro, 6 km S. of Ponta Figo, mountain forest, 1200–1800 m, *Lejoly* 95/19 (LISC!); between Pico and Ponta Figo, primary forest, 1600–1700 m, epiphyte, *Matos & Van Essche* 7389 (LISC!); Calvário, 1450 m, *Monod* 11826 (BM!).

DISTRIBUTION. Widespread in tropical Africa.

Asplenium euryssorum Hieron. in Engl. in *Bot. Jahrb. Syst.* **46**: 364 (1911); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 76 (1944).

SÃO TOMÉ. Pico, *Chevalier* 13659 (P!), primary forest, 1987 m, epiphyte, *Matos & Van Essche* 7382 (LISC!); Calvário, 920 m, *Espírito Santo* 5070 (LISC!, LISJC!); between Bacelar and Quijá, secondary forest, 160 m, *Espírito Santo* 5139 (LISC!, LISJC!); Macambrará, primary forest, 1050–1200 m, ground fern, *Exell* 132 (BM!), 1385 m, *Moller* s.n. (COI!); Ribeira Peixe, *Lains e Silva* 301 (LISU!); between Pico and Monte Castro, 6 km S. of Ponta Figo, mountain forest, 1200–1800 m, *Lejoly* 95/1 (LISC!); Santa Maria, 1260 m, *Moller* s.n. (COI!); between São Pedro and Lagoa Amélia, 1050 m, *Monod* 11714 (BM!); between Monte Quinas and Quinas Altas, *Monod* 12008 (BM!); s.l., *F.A.E. (Moller)* 28 (BM!, LISJC!, LISU!, P!).

PRÍNCIPE. Ôquê Nazaré, *Newton* 27 (BM!, COI!, P!); Pico Papagaio, *Welwitsch* 14 (BM!, K!, LISU!); s.l., *Barter* 1896b (K!).

DISTRIBUTION. Endemic.

Asplenium exhaustum (H. Christ) Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 76, f. 2 (1944); Alston in Exell in *Bull. Inst. Franç. Afrique Noire ser. A*, **21**: 445 (1959).

SÃO TOMÉ. Pico, *Chevalier* 14587 (P!-type); Cruzeiro, 300 m, *Thorold* 2072 (BM!); s.l., *Seabra* s.n. (BM!, COI!, LISU!).

DISTRIBUTION. Endemic.

Asplenium formosum Willd., *Sp. pl.* **5**: 329 (1810); Alston in Exell & Rozeira in *Conf. Int. Afr. Oc.* **3**: 79 (1958).

SÃO TOMÉ. Diogo Vaz, near Água Telha, *Rozeira* 518a (PO).

DISTRIBUTION. Pantropical.

Asplenium friesiorum C. Chr. in *Notizbl. Bot. Gart. Berlin-Dahlem* **9**: 181 (1924); Benl in *Acta Bot. Barcinon.* **40**: 22 (1991).

SÃO TOMÉ. Pico, 1950 m, *F.A.E. (Moller)* 27 (BM!, K!, LISU!, P!); between Casa do Pico and Pico, 1950 m, *Monod* 11957 (BM!).

DISTRIBUTION. Widespread in tropical Africa.

Asplenium hypomelas Kuhn, *Filic. afr.*: 104 (1868); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 78 (1944); Benl in *Acta Bot. Barcinon.* **40**: 31 (1991).

SÃO TOMÉ. Porto Alegre, *Chevalier* 13658 (P!); between Monte Café and Pico, *Chevalier* 14579 (P!); Lagoa Amélia, 1400 m, *Espírito Santo* 4069 (COI!, LISJC!), 1400 m, *Monod* 11735 (BM!, COI!), *Rose* 233 (P!), *Rozeira* 1129 (PO!); Calvário, secondary forest, 920 m, *Espírito Santo* 5074 (LISC!, LISJC!), 1200 m, *Monod* 11813 (BM!), *Rose* 150 (P!); Macambrará, primary forest, 1050–1200 m, ground fern, *Exell* 120 (BM!, COI!), 1200–1350 m, ground fern, 235a (BM!, COI!); Trás-os-Montes, *Gama* s.n. (COI!); between Pico and Monte Castro, 6 km S. of Ponta Figo, mountain forest, 1200–1800 m, *Lejoly* 95/16 (LISC!); between Bom Sucesso and Lagoa Amélia, primary forest, 1350–1420 m, *Matos & Van Essche* 7295 (LISC!); Rio Contador, 1400

m, *Moller* s.n. (COI!); W. of Pico, 1225 m, *Monod* 11996 (BM!); Pico, *Newton* s.n. (BM!, COI!); São Pedro, *Quintas* s.n. (COI!); s.l., *F.A.E. (Moller & Quintas)* 11 (BM!, COI!, K also *Moller* 10!, LISJC!, LISU!, P!), *Mann* s.n. (K!), *Quintas* s.n. (LISU!), *Souza* s.n. (COI!).

DISTRIBUTION. Widespread in tropical Africa, extending to S. and SE Africa.

Asplenium inaequilaterale Bory ex Willd., *Sp. pl.* **5**: 322 (1810); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 78 (1944); Benl in *Acta Bot. Barcinon.* **40**: 17 (1991).

SÃO TOMÉ. Ribeira Peixe, *Lains e Silva* 253 (LISU!), 254 (LISU!); Lagoa Amélia, 1430 m, *Matos* 7492 (LISC!); between Bom Sucesso and Macambrará, *Matos* 7605 (LISC!); Saudade, 750 m, *Moller* s.n. (COI!); Calvário, *Monod* 11856 (BM!); s.l., *F.A.E. (Moller)* 25 p.p. (BM!, LISJC!, LISU!), *Moller* 25 (BM!, COI!).

DISTRIBUTION. Widespread in tropical Africa, extending to S. and SE Africa and Madagascar.

Asplenium lividum Mett. ex Kuhn in *Linnaea* **36**: 100 (1869).

Asplenium protensum sensu auct. non Schrad. in *Gött. Gel. Anz.* [1818]: 916 (1818); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 79 (1944).

SÃO TOMÉ. Macambrará to Zampalma, 900 m, ground fern, *Exell* 296 (BM!, COI!); Água Pinhão, 850 m, *Quintas* 1283 (BM!, COI!).

DISTRIBUTION. E. and S. Africa, and S. America.

Asplenium longicauda Hook., *Sec. cent. ferns*: t. 69 (1860); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 78 (1944); Tardieu-Blot in Aubrév., *Fl. Cameroun* **3**: 186 (1964); Benl in *Acta Bot. Barcinon.* **40**: 9 (1991).

PRÍNCIPE. Between Ôquê Pipi and Morro do Leste, secondary forest, 350 m, ground fern, *Exell* 571 (BM!, COI!); Rio Bambu-Porco, 60 m, *Navel* 144 (LISU!, P!); s.l., *Barter* 1900 (K!-syntype).

DISTRIBUTION. W. tropical Africa, Madagascar.

Asplenium megalura Hieron. in Brause & Hieron. in Mildbr., *Wiss. Erg. Deut. Zentr.-Afr. Exped., Bot.* **2**: 17 (1910); Benl in *Acta Bot. Barcinon.* **40**: 23 (1991).

var. *molleri* (Hieron.) Tardieu in *Mém. Inst. Franç. Afrique Noire* **28**: 190 (1953).

Asplenium molleri Hieron. in Engl. in *Bot. Jahrb. Syst.* **46**: 371 (1911); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 79 (1944).

SÃO TOMÉ. Lagoa Amélia, 1400 m, epiphyte, *Espírito Santo* 4068 (COI!, LISJC!), crater rim, 1350 m, epiphyte, *Exell* 202 (BM!), 1430 m, rare epiphyte, *Matos* 7496 (LISC!), 1400 m, *Monod* 11779 (BM!); Macambrará, primary forest, 1200 m, epiphyte, *Exell* 228 (BM!); Bom Sucesso, 1075 m, *F.A.E. (Moller)* 29 (BM!, COI!, K!-type, LISU!); between Bom Sucesso and Lagoa Amélia, secondary forest, 1150–1300 m, *Matos & Van Essche* 7310 (LISC!); Calvário, 1400 m, *Monod* 11854 (BM!); W. of Pico, 870–1225 m, *Monod* 11905 (BM!); s.l., *Matos* s.n. (LISC!).

DISTRIBUTION. The species is widespread in tropical Africa. The variety is endemic to São Tomé.

Asplenium nigritianum Hook., *Sp. fil.* **3**: 223 (1860) et *Sec. cent. ferns*: t. 44 (1860); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 79 (1944); Alston in *Bol. Soc. Brot., ser. 2*, **30**: 10 (1956).

SÃO TOMÉ. S.l., *Mann* 1107 (K-not found).

PRÍNCIPE. Lapa (Leste). *Quintas* s.n. (BM!, COI!); s.l., *Barter* 1895 (BM!, K-not found), (probably Lapa), *Quintas* B (K!).

DISTRIBUTION. Tropical Africa.

NOTES. As shown by Alston (1956*b*), it was wrongly assumed that the type collection came from Bioko. In fact, *Asplenium nigritianum* does not seem to occur in Bioko.

Alston (1956*b*) referred to the type collection as *Barter* 225, explaining that Hooker mistook the date, 1859, for the number and then miscopied it as 1895 (in K specimen) or 1898 (in BM specimen). Since the specimen at K was not found, it was not possible to check its number. The collections of pteridophytes made by Barter which I examined range from no. 1886 to 1928, so it is likely that these figures refer to the number and not the date of collection. The type collection should be referred to as *Barter* 1895.

The species is poorly represented in herbaria. Neither the specimen *Barter* 1895 (K) nor *Mann* 1107 (K) could be located. In a handwritten document kept at BM, reference is made to a duplicate of the *Mann* collection kept at B.

This taxon has not been recorded in the islands since the nineteenth century.

Asplenium paucijugum F. Ballard in *Hooker's Icon. pl.* **33**: t. 3287 (1935); Alston in *Exell, Cat. Vasc. Pl. S. Tomé*: 79 (1944); Benl in *Acta Bot. Barcinon.* **40**: 8 (1991).

Asplenium variabile Hook., *Sp. fil.* **3**: 93, t. 185 (1860) var. *paucijugum* (F. Ballard) Alston in *Bol. Soc. Brot., ser. 2*, **30**: 7 (1956); Tardieu-Blot in Aubrév., *Fl. Cameroun* **3**: 184 (1964).

SÃO TOMÉ. Monte Café, 800 m, *F.A.E. (Moller)* 24 (BM!, COI!, LISJC!, LISU!); Lagoa Amélia, primary forest, 1400–1420 m, epiphyte, *Matos & Van Essche* 7410 (LISC!); NW of Pico, 1000–1350 m, *Monod* 12216 (BM!); s.l., 800 m, *Moller* 19 (K!), 550 m, *Welwitsch* 63 (BM!, LISU!).

PRÍNCIPE. Sudi, *Newton* 29 (BM!, COI!).

DISTRIBUTION. W., Central, and E. tropical Africa, Madagascar.

Asplenium sandersonii Hook., *Sp. fil.* **3**: 147, t. 179 (1860); Alston in *Exell, Cat. Vasc. Pl. S. Tomé*: 80 (1944); Benl in *Acta Bot. Barcinon.* **40**: 27 (1991).

SÃO TOMÉ. Macambrará, primary forest, 1050–1200 m, epiphyte, *Exell* 144 (BM!, COI!); São Miguel, between Xufexufe and São Miguel, 400 m, epiphyte, *Matos* 7658 (LISC!); Pico, 1950 m, *Moller* s.n. (COI!); Bombaim, *Rose* 156 (P!); Dona Augusta, Dona Eugénia, epiphyte, *Rozeira* 1096 (PO!); Lagoa Amélia, 1400 m, epiphyte, *Sérgio* s.n. (LISU!); s.l., *F.A.E. (Moller)* 23 (BM!, K also *Moller* 21!, LISU!), *Mann* (not found), *Moller* s.n. (COI!).

DISTRIBUTION. Widespread in tropical and subtropical Africa.

Asplenium unilaterale Lam., *Encycl.* **2**: 305 (1786); Alston in *Exell, Cat. Vasc. Pl. S. Tomé*: 80 (1944); Benl in *Acta Bot. Barcinon.* **40**: 15 (1991).

SÃO TOMÉ. Pico, 1300–1900 m, *F.A.E. (Moller)* 30 (K-not found, LISU!); Pico, 1900 m, *Moller* s.n. (COI!); Rio Contador, 1300 m, *Moller* s.n. (COI!).

PRÍNCIPE. S.l., *Barter* 1917 (K!).

DISTRIBUTION. Palaeotropical.

NOTE. This taxon has not been recorded in the islands since the nineteenth century.

Asplenium variabile Hook., *Sp. fil.* **3**: 93, t. 185 (1860); Alston in *Exell, Cat. Vasc. Pl. S. Tomé*: 80 (1944); Benl in *Acta Bot. Barcinon.* **40**: 7 (1991).

SÃO TOMÉ. Ió Grande, São João dos Angolares, 50 m, *F.A.E. (Quintas)* 22 (K also *Quintas* 20!, LISU!); between Xufexufe and São Miguel, 400 m, epiphyte, *Matos* 7657 (LISC!); São João dos Angolares, 50 m, *Quintas* s.n. (COI!).

PRÍNCIPE. Between Ôquê Pipi and Morro do Leste, secondary forest, 350 m, on rocks, *Exell* 567 (BM!, COI!); W. of Pico, above Lapa, below 250 m, *Monod* 12099 (BM!); Rio Bambu-Porco, 60 m, *Navel* 140 (LISU!, P!); Pico, *Thorold* 2085 (BM!); s.l., *Mann* s.n. (K-not found).

DISTRIBUTION. W. tropical Africa.

NOTE. Alston (1944) cited the collection *Barter* 1910 (BM, K). At BM, only the specimen *Barter* s.n. (Niger Expedition) was found. *Barter* 1910 (K) is *Asplenium barteri*.

Athyriaceae

Athyrium Roth

Athyrium newtonii (Baker) Diels in Engl. & Prantl, *Nat. Pflanzenfam.* **1**(4): 224 (1899); Alston in *Exell, Cat. Vasc. Pl. S. Tomé*: 73 (1944).

SÃO TOMÉ. Pico, 1650 m, *Quintas* 1393 (BM!, COI!, LISJC!), 1650 m, *Quintas* s.n. (COI!); s.l., *Newton* 2 (K!-type), *Newton* s.n. (COI!), (probably Pico), 1650 m, *Quintas* 9 (K!).

DISTRIBUTION. Also in Uganda and Tanzania, above 1000 m.

NOTES. *Newton* 88 (K) cited by Alston (l.c.) is most probably a mistake for *Quintas* 9 (the number 88 after the collector's name is the date).

This taxon has not been recorded in the islands since the nineteenth century.

Diplazium Sw.

Diplazium arborescens (Bory) Sw., *Syn. fil.*: 92 (1806); Alston in *Exell, Cat. Vasc. Pl. S. Tomé*: 73 (1944).

SÃO TOMÉ. Between Monte Café and Pico, *Chevalier* 14290 (P!); Pico, *Chevalier* s.n. (P!); Macambrará, primary forest, 1050–1200 m, *Exell* 128 (BM!, COI!); Trás-os-Montes, *Gama* s.n. (COI!); between Lagoa Amélia and Chamiço, primary forest, 1400 m, *Matos* 7526 (LISC!); Monte Café, *Moller* s.n. (COI!); Lagoa Amélia, 1350–1380 m, *Monod* 11772 (BM!, COI!), *Rose* 234 (P!), *Rozeira* 1139 (K!, PO!); Cantagalo, 400 m, *Rozeira* 3157 (PO!); Formoso, *Rozeira* 3236 (PO!); Nova Ceilão, *Rozeira* 4905 (PO!); s.l., *F.A.E. (Moller)* 34 (BM!, COI!, K also *Moller* 28!, LISJC!, LISU!, P!), *Mann* 621 (P!), 1200 m, *Mann* s.n. (K!), *Moller* s.n. (COI!), *Rozeira* 2846 (PO!).

DISTRIBUTION. Also in Madagascar, Comoros, and Mascarene Is.

Diplazium proliferum (Lam.) Thouars, *Esquisse fl. Tristan d'Acugna*: 35 (1804); Alston in *Exell, Cat. Vasc. Pl. S. Tomé*: 73 (1944); Tardieu-Blot in Aubrév., *Fl. Cameroun* **3**: 237 (1964).

Callipteris prolifera (Lam.) Bory, *Voy. îles Afrique* **1**: 283 (1804); Benl in *Acta Bot. Barcinon.* **38**: 37 (1988).

SÃO TOMÉ. Between Bom Sucesso and Lagoa Amélia, *Almeida* s.n. (LISC!); Boa Entrada, *Chevalier* 14333 (P!), 14361 (P!) 14361bis (not found); Ribeira Peixe, S. of Cabumbé, secondary forest, 350 m, *Espírito Santo* 3916 (COI!, LISJC!); Morro Vigia, 800 m, *Espírito Santo* 4253 (LISC!, LISJC!); Monte Rosa, secondary forest, 50 m, *Espírito Santo* 4748 (LISC!, LISJC!); Trás-os-Montes, *Lains e Silva* 229 (LISU!); between Monte Castro and Ponta Figo, secondary forest, 500–1070 m, *Lejoly* 95/45 (LISC!); Dona Amélia, Santa Catarina, near Água Cardoso, *Matos* 7593 (LISC!); Pedroma, *Mocquers* 89/90 (P!), 131/132 (P!); Nova Moca, near Monte Café, 90 m, *Moller* s.n. (COI!); Pinheira, *Moller* s.n. (COI!); Rodia, 540 m, *Moller* s.n. (COI!); Calvário, 1200 m, *Monod* 11816 (BM!); waterfall near São Nicolau, *Monod* 12037 (BM!, COI!), *Rozeira* 571 (PO!); Cruzeiro, *Rozeira* 765 (PO!); between Milagrosa and Rio Abade, near Formoso, *Rozeira* 3188 (PO!); on the way from Santa Irene to the river, *Rozeira* 3319

(PO!); Sela do Camelo, near Lembá, 300–700 m, *Rozeira* 3459 (PO!); Monte Café, 760 m, *Welwitsch* 60 (BM!, K!, LISU!); s.l., *Don* 49 (BM!), *F.A.E. (Moller)* 35 (BM!, COI!, LISJC!, LISU!, P!).

PRÍNCIPE. Between Ôquê Pipi and Morro de Leste, secondary forest, 350 m, ground fern, *Exell* 563 (BM!, COI!); Rio Bambu-Porco, 60 m, *Navel* 137 (LISU!, P!); Infante D. Henrique, *Rose* 413 (P!); Infante D. Henrique, near Ribeiro Chimboto, *Rozeira* 312 (PO!); Lapa, way to Pico, 300 m, *Rozeira* 915 (PO!); near Ribeira Camarão, *Rozeira* 2213 (PO!); Bela Vista, near main house, *Rozeira* 3916 (PO!).

DISTRIBUTION. Palaeotropical.

Blechnaceae

Blechnum L.

Blechnum attenuatum (Sw.) Mett., *Fil. hort. bot. Lips.*: 64, t. 3, figs 1–6 (1856); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 80 (1944); Tardieu-Blot in Aubrév., *Fl. Cameroun* 3: 295 (1964); Benl in *Acta Bot. Barcinon.* 38: 63 (1988).

SÃO TOMÉ. Macambrará to Zampalma, primary forest, 800–1050 m, *Exell* 437 (BM!, COI!), 438 (BM!, COI!); between Casa do Pico and Pico, 1250 m, *Monod* 11960 (BM!).

DISTRIBUTION. Tropical and S. Africa, Madagascar.

Cyatheaceae

Cyathea Sm.

Cyathea camerooniana Hook. in Hook. & Baker, *Syn. fil.*: 21 (1865); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 60 (1944).

var. ***currorii*** Holttum in *Kew Bull.* 36: 480 (1981).

Alsophila camerooniana var. *camerooniana* sensu auct. non (Hook.) R.M. Tryon in *Contr. Gray Herb.* 200: 30 (1970); Benl in *Acta Bot. Barcinon.* 31: 26 (1978).

PRÍNCIPE. Between Ôquê Pipi and Morro do Leste, secondary forest, 350 m, *Exell* 556 (BM!, COI!); Rio Bambu-Porco, 60 m, *Navel* 136 (COI!, K!, LISU!, P!, WAG); Infante D. Henrique, *Rose* 400 (P!); Infante D. Henrique, near Ribeiro Chimboto, *Rozeira* 325 (PO!); s.l., *Strickland* s.n. (BM!, COI-not found).

DISTRIBUTION. Apparently this variety occurs only in Príncipe, where the type (W. Africa, S. of Tropics, *Curror* s.n. (K!)) was probably collected.

Cyathea manniana Hook. in Hook. & Baker, *Syn. fil.*: 21 (1865); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 60 (1944); Holttum in *Kew Bull.* 36: 472 (1981).

Alsophila manniana (Hook.) R.M. Tryon in *Contr. Gray Herb.* 200: 30 (1970); Benl in *Acta Bot. Barcinon.* 31: 27 (1978).

SÃO TOMÉ. Lagoa Amélia, 1400 m, *Espírito Santo* 5035 (LISC!, LISJC!), 1380 m, *Monod* 11763 (BM!), *Quintas* s.n. (COI!), *Rozeira* 1150 (PO!); Macambrará, primary forest, 1050–1200 m, *Exell* 244 (BM!); Pico, primary forest, 1900–2020 m, *Lejoly* 94/577 (LISC!), 1850 m, *Moller* s.n. (COI!); between Quinas Altas and Monte Quinas, *Monod* 12021 (BM!); between Casa do Pico and Pico, 1950 m, *Monod* 12242ter (BM!).

DISTRIBUTION. Widespread in tropical Africa.

Cyathea welwitschii Hook. in Hook. & Baker, *Syn. fil.*: 21 (1865); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 60 (1944); Holttum in *Kew Bull.* 36: 475 (1981).

Alsophila welwitschii (Hook.) R.M. Tryon in *Contr. Gray Herb.* 200: 31 (1970).

SÃO TOMÉ. Macambrará, primary forest, 1050–1200 m, *Exell* 111 (BM!, COI!), 233 (BM!, COI!); Bom Sucesso, 1200 m, *F.A.E. (Moller)* 2 (K!, LISU!, P!), 1200 m, *Moller* s.n. (BM!, COI!); Pico, 1500–1850 m, *F.A.E. (Moller)* 3 (K!, LISU!), 1850 m, *Moller* s.n. (COI!); Trás-os-Montes, *Gama* s.n. (COI!), 900–1200 m, *Henriques* s.n. (P!); between Quinas Altas and Monte Quinas, *Monod* 12010 (BM!); Monte Café, 600 m, *Welwitsch* 66 (BM!, K!, LISU!); s.l., *Mann?* 41/1 (P!), *Mann* 1104 (K!-lectotype).

DISTRIBUTION. Endemic.

Davalliaceae

Davallia Sm.

Davallia chaerophylloides (Poir.) Steud., *Nomencl. bot.* 2: 146 (1824); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 72 (1944); Alston in Exell, *Suppl. Cat. Vasc. Pl. S. Tomé*: 7 (1956); Benl in *Acta Bot. Barcinon.* 33: 27 (1982).

SÃO TOMÉ. São Vicente, 200 m, epiphyte, *Espírito Santo* 107 (BM!, COI!, LISJC!); Benfica, 350 m, epiphyte, *F.A.E. (Moller)* 9 (BM!, LISU!); Benfica, near Trindade, 350 m, *Moller* s.n. (COI!); Rio do Ouro, 350 m, *Moller* s.n. (COI!); near Diana, epiphyte, *Rozeira* 1210 (PO!); s.l., 460–600 m, *Welwitsch* 56 (BM!, K!, LISU!).

DISTRIBUTION. Widespread in tropical and S. Africa and Mascarene Is.

NOTE. Nooteboom (1994) synonymized *Davallia chaerophylloides* with *D. denticulata* (Burm.f.) Mett. ex Kuhn var. *denticulata*.

Humata Cav.

Humata repens (L.f.) Diels in Engl. & Prantl, *Nat. Pflanzenfam.* 1(4): 209 (1899); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 71 (1944).

SÃO TOMÉ. São Miguel, *Newton* s.n. (P!).

DISTRIBUTION. Palaeotropical.

NOTES. Nooteboom (1994) included *Humata* in *Davallia* [*D. repens* (L.f.) Kuhn].

This taxon has not been recorded in the islands since the nineteenth century.

Dennstaedtiaceae (incl. Hypolepidaceae)

Blotiella R.M. Tryon

Blotiella currorii (Hook.) R.M. Tryon in *Contr. Gray Herb.* 191: 99 (1962); Benl in *Acta Bot. Barcinon.* 38: 29 (1988).

Lonchitis currorii (Hook.) Mett. ex Kuhn in Von der Decken's *Reisen Ost-Afr.*, *Bot.* 3: 10 (1879); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 85 (1944); Alston in Exell & Rozeira in *Conf. Int. Afr. Oc.* 3: 79 (1958); Alston in Exell in *Bull. Inst. Franç. Afrique Noire ser. A*, 21: 441 (1959); Tardieu-Blot in Aubrév., *Fl. Cameroun* 3: 100 (1964).

SÃO TOMÉ. Nova Moca, 1100 m, *Quintas* 6 (K!, LISU!); Lagoa Amélia, 1400 m, *Quintas* 1262 p.p. (P!), 1400 m, *Quintas* 1455 (BM!, COI!, K!); s.l., *Quintas* 1287 p.p. (P!).

PRÍNCIPE. Infante D. Henrique, *Lains e Silva* 458 (LISU!), 459 (LISU!); Pico, 500–600 m, *Monod* 12109 (BM!), *Rozeira* 913 (PO).

DISTRIBUTION. W. tropical Africa, extending to Sudan and Zambia.

NOTE. *Newton* s.n. (P!), from Príncipe, cited but not seen by Alston (1944), consists of sterile young fronds.

Blotiella glabra (Bory) R.M. Tryon in *Contr. Gray Herb.* **191**: 99 (1962); Benl in *Acta Bot. Barcinon.* **38**: 31 (1988).

Lonchitis glabra Bory, *Voy. îles Afrique* **1**: 321 (1804); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 85 (1944).

Lonchitis gracilis Alston in Exell, *Suppl. Cat. Vasc. Pl. S. Tomé*: 7 (1956); Tardieu-Blot in Aubrév., *Fl. Cameroun* **3**: 102 (1964).

SÃO TOMÉ. Porto Alegre, *Chevalier* 14311 (P!); Pico, 1700–1900 m, *F.A.E. (Moller)* 13 (BM!, COI!, LISJC!, LISU!, P!), *Mann* s.n. (K!), 1750–1900 m, *Moller* s.n. (COI!); Lagoa Amélia, 1400 m, *Quintas* 1262 (BM!).

DISTRIBUTION. Tropical and S. Africa, Madagascar and Reunion.

Blotiella mannii (Baker) Pic. Serm. in *Webbia* **31**: 250 (1977); Benl in *Acta Bot. Barcinon.* **38**: 30 (1988).

Lonchitis mannii (Baker) Alston in *Bol. Soc. Brot., ser. 2*, **30**: 18 (1956); Alston in Exell & Rozeira in *Conf. Int. Afr. Oc.* **3**: 80 (1958).

SÃO TOMÉ. Macambrará, primary forest, 1050–1200 m, ground fern, *Exell* 239 (BM!, COI!), *Quintas* 1262A (BM!); Trás-os-Montes, *Quintas* 1287 (BM!, COI!); s.l., *Quintas* 1262 p.p. (COI!, P!).

PRÍNCIPE. Pico, *Rozeira* 903 (BM-not found, PO!), 800 m, *Rozeira* 912 (K!), 918 (K!, PO!), 600 m, *Rozeira* 1075 (K!).

DISTRIBUTION. W. tropical Africa.

Histiopteris (J.G. Agardh) J. Sm.

Histiopteris incisa (Thunb.) J. Sm., *Hist. fil.*: 295 (1875); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 86 (1944); Benl in *Acta Bot. Barcinon.* **38**: 25 (1988).

SÃO TOMÉ. Near São Pedro, *F.A.E. (Moller)* 19 (BM!, LISU!); Macambrará, 1280 m, *Moller* s.n. (COI!).

PRÍNCIPE. Ôquê Nazaré, *Newton* s.n. (COI!).

DISTRIBUTION. Pantropical.

NOTE. This taxon has not been recorded in the islands since the nineteenth century.

Hypolepis Bernh.

Hypolepis sparsisora (Schrad.) Kuhn, *Filic. afr.*: 120 (1868); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 82 (1944); Benl in *Acta Bot. Barcinon.* **38**: 27 (1988).

SÃO TOMÉ. Macambrará, primary forest, 1050–1200 m, *Exell* 112 (BM!, COI!), 1200 m, *Quintas* 4 (COI!-also with no. 1354, K!), 1200 m, *Quintas* 1354 (BM!, COI!, LISJC!); Trás-os-Montes, *Gama* s.n. (COI!).

DISTRIBUTION. Tropical and S. Africa, Madagascar, Comoros and Mascarene Is.

Lonchitis L.

Lonchitis occidentalis Baker in Hook. & Baker, *Syn. fil.*: 128 (1867); Benl in *Acta Bot. Barcinon.* **38**: 34 (1988).

Anisosorus occidentalis (Baker) C. Chr., *Cat. pl. mad., pter.*: 54 (1932); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 85 (1944).

SÃO TOMÉ. Macambrará, 1290 m, *Moller* s.n. (COI!); São João dos Angolares, 200 m alt, *Quintas* s.n. (COI!); s.l., *F.A.E. (Moller & Quintas)* 14 (BM!, K also *Moller* 11!, LISU!).

DISTRIBUTION. Widespread in tropical and SE Africa, Madagascar.

NOTE. This taxon has not been recorded in the islands since the nineteenth century.

Microlepia C. Presl

Microlepia speluncae (L.) T. Moore, *Index fil.*: 93 (1857); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 72 (1944); Benl in *Acta Bot. Barcinon.* **38**: 23 (1988).

SÃO TOMÉ. Ilhéu das Rolas, *Quintas* s.n. (BM!, COI!); Monte Café, 760 m, *Welwitsch* 56(2) (BM!, LISU!); s.l., *Don* s.n. (BM!), *F.A.E. (Moller & Quintas)* 10 (K-not found, LISU!), 760 m, *Welwitsch* 56 (K!, LISU!).

DISTRIBUTION. Palaeotropical, rare and sporadic.

NOTE. This taxon has not been recorded in the islands since the nineteenth century.

Odontosoria Fée

Odontosoria chinensis (L.) J. Sm. in Seem., *Bot. voy. Herald*: 430 (1857).

var. **divaricata** H. Christ in *J. Bot. (Morot), ser. 2*, **2**: 23 (1909).

Stenoloma chinense (L.) Bedd., *Handb. ferns Brit. Ind.*: 70 (1883) var. *divaricatum* (H. Christ) Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 73 (1944).

Sphenomeris chusana (L.) Copel. in *Bernice P. Bishop Mus. Bull.* **59**: 69 (1929) var. *divaricata* (H. Christ) Tardieu in Humbert, *Fl. Madag. et Comoros* **1**, fam. 5: 29 (1958).

Sphenomeris chinensis (L.) Maxon in *J. Wash. Acad. Sci.* **3**: 144 (1913) var. *divaricata* (H. Christ) Kramer in *Blumea* **15**: 572 (1968).

SÃO TOMÉ. Between Monte Café and Pico, *Chevalier* 14309 (P!-type of the var.); Calvário, 1500 m, ground fern, *Exell* 321 (BM!, COI!); Pico, 1500–1900 m, *F.A.E. (Moller)* 12 (BM!, COI!, LISJC!, LISU!), 1900 m, *Mollers.n.* (COI!), *Newton* s.n. (BM!, COI!); Trás-os-Montes, *Gama* s.n. (COI!); between Calvário and Estação Sousa, primary forest, 1500 m, *Matos & Van Essche* 7357 (LISC!).

DISTRIBUTION. Occurs also sporadically in tropical Asia and Oceania, and in Madagascar, Reunion, Mauritius and Seychelles.

NOTE. Kramer (1972) suggested that the collections *Moller*, *Gama*, *Exell*, *Newton* and *F.A.E. (Moller)*, cited above, might represent an undescribed species of *Sphenomeris* (= *Odontosoria*), noting that more material and field studies are required to resolve the problem.

Pteridium Gled. ex Scop.

Pteridium aquilinum (L.) Kuhn in Von der Decken's *Reisen Ost-Afr., Bot.* **3**: 11 (1879); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 86 (1944); Benl in *Acta Bot. Barcinon.* **38**: 35 (1988).

SÃO TOMÉ. Boa Entrada, *Chevalier* 13791 (P); between Macambrará and São Nicolau, secondary woodland, 1050 m, common, *Exell* 272 (BM!, COI!); Nova Moca, 800–900 m, *F.A.E. (Moller)* 17 (LISU!); between Morro Vigia and Guarda, *Rozeira* 688 (PO!); Pico, 1900 m, *Monod* 11920 (BM!); Monte Café, 760 m, *Welwitsch* 59 (BM!, LISU!); s.l., *Moller* s.n. (COI!), *Welwitsch* 57 (LISU!).

PRÍNCIPE. Cajamanga, *Rozeira* 633 (PO!); Pico Papagaio, *Welwitsch* 18 (BM!, LISU!).

DISTRIBUTION. Cosmopolitan.

Elaphoglossaceae

Elaphoglossum Schott ex J. Sm.

Elaphoglossum acrostichoides (Hook. & Grev.) Schelpe in *J. S.*

African Bot. **30**: 196 (1964); Schelpe in *Contr. Bolus Herb.* **1**: 29 (1969); Benl in *Acta Bot. Barcinon.* **40**: 71 (1991).

SÃO TOMÉ. Macambrará, *Exell* 153 (BM!); Calvário, *Monod* 11846 (BM!); Pico, *Rose* 311 (P!).

DISTRIBUTION. Widespread in tropical and subtropical Africa, Madagascar, Comoros and Reunion.

Elaphoglossum aubertii (Desv.) T. Moore, *Index fil.* **2**: 5 (1857); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 91 (1944); Schelpe in *Contr. Bolus Herb.* **1**: 32 (1969); Benl in *Acta Bot. Barcinon.* **40**: 75 (1991).

SÃO TOMÉ. Pico, 1900 m, *F.A.E. (Moller)* 63 (K also *Moller* 56!, LISU!); 1900 m, *Moller* s.n. (BM!, COI!); Calvário, 1550 m, *Monod* 11841 (BM!).

DISTRIBUTION. Widespread in tropical and subtropical Africa, Madagascar, Comoros and Mascarene Is.

Elaphoglossum chevalieri H. Christ in *J. Bot. (Morot)*, *ser.* **2**: 23 (1909); Alston in Exell, *Suppl. Cat. Vasc. Pl. S. Tomé*: 8 (1956); Alston in Exell in *Bull. Inst. Franç. Afrique Noire ser. A*, **21**: 447 (1959); Schelpe in *Contr. Bolus Herb.* **1**: 33 (1969).

Elaphoglossum clarenceanum sensu auct. non (Baker) C. Chr., *Index filic.*: 304 (1905); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 92 (1944).

SÃO TOMÉ. Between Monte Café and Pico, *Chevalier* 14292bis (P!-type); Pico, 1950 m, *Moller* s.n. (COI!), *Rose* 298 (P!); Calvário, 1550 m, *Monod* 11837 (BM!); near Casa do Pico, 1930 m, *Monod* 11953 (BM!); E. of Pico, 1700 m, *Quintas* 1379 (BM!, COI!); s.l., *F.A.E. (Moller)* 64 (LISU!), *Henriques* 5/84 p.p. (K also labelled *F.A.E. (Moller)* 64!).

PRÍNCIPE. Pico, 700–800 m, *Monod* 12134 (BM!, COI!), above 300 m, *Thorold* 2087 (BM!).

DISTRIBUTION. W. tropical Africa, SE Africa.

Elaphoglossum isabelense Brause in Brause & Hieron. in *Bot. Jahrb. Syst.* **53**: 432 (1915); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 92 (1944); Tardieu-Blot in Aubrév., *Fl. Cameroun* **3**: 297 (1964); Benl in *Acta Bot. Barcinon.* **40**: 73 (1991).

SÃO TOMÉ. Between Monte Café and Pico, *Chevalier* 14540 (not found); Lagoa Amélia, *Exell* 221 (BM!), *Rose* 195 (P!); Macambrará, *Exell* 227 (BM!); Calvário, *Monod* 11823 (BM!); Rio Contador, 1450 m, *Quintas* 1356 (BM!, P!); s.l., *F.A.E. (Moller)* 62 (BM!, LISU!, P!), *Henriques* 5/84 p.p. (K!).

PRÍNCIPE. S.l., *Barter* 1903 (K!).

DISTRIBUTION. W. tropical Africa.

Elaphoglossum salicifolium (Willd. ex Kaulf.) Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 92 (1944); Tardieu-Blot in Aubrév., *Fl. Cameroun* **3**: 302 (1964); Benl in *Acta Bot. Barcinon.* **40**: 73 (1991).

Elaphoglossum petiolatum (Sw.) Urb., *Symb. antill.* **4**: 61 (1903) subsp. *salicifolium* (Willd. ex Kaulf.) Schelpe in *Contr. Bolus Herb.* **1**: 34 (1969).

SÃO TOMÉ. São João dos Angolares, *F.A.E. (Quintas)* 61 p.p. (BM!); Pico, *Rose* 315 (P!).

DISTRIBUTION. Tropical Africa, Madagascar, Comoros, Seychelles and Mascarene Is.

Gleicheniaceae

Dicranopteris Bernh.

Dicranopteris linearis (Burm.f.) Underw. in *Bull. Torrey Bot. Club* **34**: 250 (1907); Benl in *Acta Bot. Barcinon.* **31**: 23 (1978).

Gleichenia linearis (Burm.f.) C.B. Clarke in *Trans. Linn. Soc. London, Bot.* **1**: 428 (1880); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 93 (1944); Alston in Exell, *Suppl. Cat. Vasc. Pl. S. Tomé*: 8 (1956).

SÃO TOMÉ. Between Monte Café and Pico, *Chevalier* 14310 (P); Famosa, 400 m, *Espírito Santo* 71 (BM!, COI!, LISJC!); between Java and Bombaim, secondary forest, 520 m, *Espírito Santo* 5013 (LISC!, LISJC!); Macambrará to Zampalma, 1050 m, ground fern, *Exell* 298 (BM!, COI!); São Nicolau, 900 m, *Figueiredo & Arriegas* 52 (LISC!); Jou, *Lains e Silva* 331 (LISU!); between Monte Castro and Ponta Figo, secondary forest, 500–1070 m, *Lejoly* 95/35 (LISC!); Pico, summit, *Mann* (K!), 1800 m, *Moller* s.n. (COI!); between Calvário and Estação Sousa, primary forest, 1500 m, *Matos & Van Essche* 7358 (LISC!); Rio Contador, 1325 m, *Moller* s.n. (COI!); Calvário, 1100 m, *Monod* 11810 (BM!, COI!); Água Izé, common, *Pinto Basto* 198 (LISC!); Nova Moca, 750 m, *Quintas* 1465 (BM!, COI!, K!); between Vale Carmo and Guaiquil, *Rozeira* 18 (PO!); Trás-os-Montes, s.c. s.n. (COI!); s.l., *F.A.E. (Moller)* 1 (BM!, COI!, LISJC!, LISU!).

PRÍNCIPE. Infante D. Henrique, 200 m, common ground fern, *Exell* 654 (BM!, COI!); 240 m, *Lains e Silva* 467 (LISU!); Ôquê Nazaré, *Newton* s.n. (BM!, COI!); Pico Papagaio, 760 m, *Welwitsch* 19 (BM!, LISU!).

DISTRIBUTION. Pantropical.

Grammitaceae

Grammitis Sw.

Grammitis ebenina (Maxon) Tardieu in *Mém. Inst. Franç. Afrique Noire* **28**: 211, t. 42, figs 11–12 (1953); Schelpe in *Contr. Bolus Herb.* **1**: 3 (1969).

Polypodium ebeninum Maxon in *Bull. Torrey Bot. Club* **42**: 224 (1915); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 88 (1944).

SÃO TOMÉ. Cabumbé, 800 m, epiphyte, *Newton* s.n. (P!).

DISTRIBUTION. Also in St. Helena.

NOTE. This taxon has not been recorded in the islands since the nineteenth century.

Grammitis mollerii (Baker) Schelpe in *Bol. Soc. Brot.*, *ser.* **2**, **40**: 162 (1966); Schelpe in *Contr. Bolus Herb.* **1**: 5 (1969).

Polypodium mollerii Baker in Henriq. in *Bol. Soc. Brot.* **4**: 154, t. 2, fig. B (1887); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 88 (1944).

SÃO TOMÉ. Pico, 1900 m, *F.A.E. (Moller)* 51 (BM!, COI!, LISJC!, LISU!, P!); s.l. (probably Pico), *Moller* 64 (K-holotype).

DISTRIBUTION. Endemic.

NOTE. This taxon has not been recorded in the islands since the nineteenth century.

Grammitis nigrocincta Alston in Exell in *Bull. Inst. Franç. Afrique Noire ser. A*, **21**: 444 (1959); Schelpe in *Contr. Bolus Herb.* **1**: 3 (1969).

Grammitis sp.; Alston in Exell & Rozeira in *Conf. Int. Afr. Oc.* **3**: 80 (1958).

PRÍNCIPE. Pico, 600 m, *Thorold* 2074 (BM!), *Monod* 12162 (BM!-holotype, COI!), *Rozeira* 921 (PO).

DISTRIBUTION. Also in Madagascar.

Grammitis tomensis Schelpe in *Contr. Bolus Herb.* 1: 6 (1969).

SÃO TOMÉ. Pico, 2000 m, *Quintas* 11 (BM!-holotype, COI!); s.l. (probably Pico), *Newton* 11 p.p. (K).

DISTRIBUTION. Endemic.

NOTES. At BM there is another collection labelled *Quintas* 11 which consists of *Pteris tripartita*.

This taxon has not been recorded in the islands since the nineteenth century.

Xiphopteris Kaulf.

Xiphopteris cultrata (Willd.) Schelpe in *Bol. Soc. Brot., ser. 2*, 41: 217 (1967); Schelpe in *Contr. Bolus Herb.* 1: 9 (1969); Benl in *Acta Bot. Barcinon.* 33: 22 (1982).

Polypodium cultratum Willd., *Sp. pl.* 5: 187 (1810) var. *elasticum* (Bory ex Willd.) Baker in Hook. & Baker, *Syn. fil.*: 327 (1867); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 87 (1944).

SÃO TOMÉ. Macambrará to Zampalma, primary forest, 800–1050 m, *Exell* 441 (BM!); between Bom Sucesso and Lagoa Amélia, epiphyte, *Matos* 7585 (LISC!); Lagoa Amélia, primary forest, 1400–1420 m, epiphyte, *Matos* & *Van Essche* 7412 (LISC!).

DISTRIBUTION. W. and Central Africa and tropical America.

Xiphopteris oosora (Baker) Alston in *Bol. Soc. Brot., ser. 2*, 30: 26 (1956); Tardieu-Blot in Aubrév., *Fl. Cameroun* 3: 325 (1964); Schelpe in *Contr. Bolus Herb.* 1: 12 (1969); Benl in *Acta Bot. Barcinon.* 33: 21 (1982).

Polypodium oosorum Baker in Henriq. in *Bol. Soc. Brot.* 4: 154, t. 2, fig. A (1887); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 89 (1944).

SÃO TOMÉ. Pico, 1950 m, *Moller* s.n. (BM!, COI!); Pico, 1950 m, *F.A.E. (Moller)* 52 (BM!, K?, LISU!, P!); s.l. (probably Pico), *Moller* 1337 (K-holotype).

DISTRIBUTION. W. and E. tropical Africa, Madagascar.

NOTE. This taxon has not been recorded in the islands since the nineteenth century.

Xiphopteris villosissima (Hook.) Alston in *Bol. Soc. Brot., ser. 2*, 30: 27 (1956); Schelpe in *Contr. Bolus Herb.* 1: 8 (1969); Benl in *Acta Bot. Barcinon.* 33: 23 (1982).

Polypodium villosissimum Hook., *Sp. fil.* 4: 197 (1862); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 90 (1944).

SÃO TOMÉ. S.l., *Mann* s.n. (K), *Newton* (not found at COI).

DISTRIBUTION. W., E., and SE tropical Africa.

NOTE. This taxon has not been recorded in the islands since the nineteenth century.

Hemionitidaceae

Coniogramme Fée

Coniogramme africana Hieron. in *Hedwigia* 57: 293 (1916); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 81 (1944); Tardieu-Blot in Aubrév., *Fl. Cameroun* 3: 132 (1964); Benl in *Acta Bot. Barcinon.* 32: 26 (1980).

SÃO TOMÉ. Macambrará to Zampalma, 900 m, ground fern, *Exell* 292

(BM!); Macambrará, primary forest, 1050–1200 m, ground fern, *Exell* 421 (BM!, COI!); Pico, 1800 m, *Moller* s.n. (COI!); W. of Pico, 1225 m, *Monod* 11994 (BM!); NW of Pico, 1225 m, *Monod* 11995 (BM!); Lagoa Amélia, *Rozeira* 1182 (PO!); s.l., *F.A.E. (Moller)* 58 (BM!, LISU!), *Mann* s.n. (K!), *Moller* s.n. (COI!).

DISTRIBUTION. Widespread in tropical Africa.

Pityrogramma Link

Pityrogramma calomelanos (L.) Link, *Handbuch* 3: 20 (1833) 'calomelas'; Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 81 (1944); Alston in Exell in *Bull. Inst. Franç. Afrique Noire ser. A*, 21: 442 (1959).

var. **calomelanos**; Benl in *Acta Bot. Barcinon.* 32: 30 (1980).

SÃO TOMÉ. Between Bom Sucesso and Macambrará, *Matos* 7611 (LISC!); Água Izé, *Pinto Basto* 215 (LISC!); near Bombaim, *Rozeira* 499 (PO!).

PRÍNCIPE. Santo António, *Monod* 12064 (BM!, COI!); s.l., *Barter* 1912 (K-not found).

DISTRIBUTION. A weed introduced from tropical America.

Hymenophyllaceae

Hymenophyllum Sm.

Hymenophyllum capillare Desv. in *Mém. Soc. Linn. Paris* 6: 333 (1827); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 59 (1944); Tardieu-Blot in Aubrév., *Fl. Cameroun* 3: 75 (1964); Benl in *Acta Bot. Barcinon.* 32: 7 (1980).

SÃO TOMÉ. Pico, 1500–2000 m, *Moller* s.n. (BM!); W. of Pico, 1225–1430 m, *Monod* 11913 (BM!, COI!); Calvário, *Rose* 155 (P!); s.l., *F.A.E. (Moller & Quintas)* 5 p.p. (K also *Moller* 4!, P!).

DISTRIBUTION. Widespread in tropical Africa, Mascarene Is. and Tristan da Cunha.

Hymenophyllum hirsutum (L.) Sw. in *J. Bot. (Schrader)* 1800(2): 99 (1801), emend. C.V. Morton in *Contr. U.S. Natl. Herb.* 29: 155, 173 (1947); Tardieu-Blot in Aubrév., *Fl. Cameroun* 3: 76 (1964); Benl in *Acta Bot. Barcinon.* 32: 9 (1980).

Hymenophyllum ciliatum Sw. in *J. Bot. (Schrader)* 1800(2): 100 (1801) var. *boryanum* (Willd.) Mett. ex Kuhn, *Filic. afr.*: 39 (1868); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 59 (1944).

SÃO TOMÉ. Between Monte Café and Pico, *Chevalier* 14292 p.p. (P!); Calvário, 1500 m, ground fern, *Exell* 327 (BM!, COI!), 1560 m, *Monod* 11835 (BM!, COI!); Lagoa Amélia, primary forest, 1400–1420 m, epiphyte, *Matos* & *Van Essche* 7414 (LISC!); Pico, 1500–2000 m, *Moller* s.n. (BM!, COI!); Bom Sucesso, 1150 m, *Moller & Quintas* s.n. (COI!); Bindá, *Newton* (P-specimen is missing from sheet); São Nicolau, 900 m, *Quintas* s.n. (LISU!); s.l., *F.A.E. (Moller & Quintas)* 5 p.p. (BM!, COI!, K!, LISJC!, LISU!, P!), *Quintas* s.n. (K!).

DISTRIBUTION. Pantropical and subtropical.

Hymenophyllum polyanthos Sw. in *J. Bot. (Schrader)* 1800(2): 102 (1801).

var. **kuhnii** (C. Chr.) Schelpe in *Bol. Soc. Brot., ser. 2*, 40: 156 (1966); Benl in *Acta Bot. Barcinon.* 32: 6 (1980).

Hymenophyllum kuhnii C. Chr., *Index filic.*: 363 (1905); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 59 (1944); Alston in Exell & Rozeira in *Conf. Int. Afr. Oc.* 3: 78 (1958); Alston in Exell in *Bull. Inst. Franç. Afrique Noire ser. A*, 21: 441 (1959); Tardieu-Blot in Aubrév., *Fl. Cameroun* 3: 72 (1964).

SÃO TOMÉ. Between Monte Café and Pico, *Chevalier* 14292 p.p. (P!), 14292ter (BM!, P!), 14551 (P!); SW region, *Chevalier* 14588 (P!); Calvário, 1500 m, ground fern, *Exell* 323 (BM!); between Lagoa Amélia and Chamiço, primary forest, 1250 m, epiphyte, *Matos* 7534 (LISC!); Pico, 1950 m, *Moller* s.n. (COI!), *Rose* 316 (P!), 319 (P!), *Rozeira* 967 (PO!); Trás-os-Montes, 800–1200 m, *Quintas* 1315 (BM!, COI-not found); s.l., *F.A.E. (Moller)* 4 p.p. (BM!, COI!, K also *Moller* 3!, LISJC!, LISU!, P!).

PRÍNCIPE. W. of Pico, 500–600 m, *Monod* 12113 (BM!); Pico, 500–600 m, *Monod* 12116 (BM!), 800–900 m, *Rozeira* 973 (BM-not found, PO), 600 m, epiphyte, *Thorold* 2073A (BM!).

DISTRIBUTION. Widespread in tropical Africa.

Hymenophyllum polyanthos Sw. in *J. Bot. (Schrader)* **1800**(2): 102 (1801).

var. **mildbraedii** (Brause ex Brause & Hieron.) Schelpe in *Garcia de Orta, ser. Bot.* **3**: 54 (1976).

Hymenophyllum mildbraedii (Brause ex Brause & Hieron.) Alston in *Exell, Cat. Vasc. Pl. S. Tomé*: 60 (1944); Alston in *Exell in Bull. Inst. Franç. Afrique Noire ser. A*, **21**: 441 (1959).

PRÍNCIPE. Pico, *Rozeira* 965 (K!), 600 m, epiphyte, *Thorold* 2073 p.p. (BM!), 900 m, *Thorold* 2084 p.p. (BM!).

DISTRIBUTION. Angola and Annobon.

Hymenophyllum splendidum Bosch in *Ned. Kruidk. Arch.* **5**(3): 192 (1863); Alston in *Exell, Cat. Vasc. Pl. S. Tomé*: 60 (1944); Alston in *Exell in Bull. Inst. Franç. Afrique Noire ser. A*, **21**: 441 (1959); Tardieu-Blot in *Aubrév., Fl. Cameroun* **3**: 76 (1964); Benl in *Acta Bot. Barcinon.* **32**: 8 (1980).

SÃO TOMÉ. Macambrará, primary forest, 800–1050 m, *Exell* 439 (BM!, COI!); s.l., *F.A.E. (Moller & Quintas)* 5 p.p. (P!).

PRÍNCIPE. Pico, *Rozeira* 966 (K!), 600 m, epiphyte, *Thorold* 2073B (BM!), 900 m, epiphyte, *Thorold* 2084A (BM!).

DISTRIBUTION. Tropical Africa, extending to Tanzania.

Trichomanes L.

NOTE. Recent work (Dubuisson, 1996) supports the division by earlier workers of the genus *Trichomanes* s.l. into several genera. Although the genus is treated here in its *sensu lato*, the names of the taxa in the segregate genera are also provided, when available.

Trichomanes borbonicum Bosch in *Ned. Kruidk. Arch.* **5**(2): 158 (as '185') (1861); Alston in *Exell, Cat. Vasc. Pl. S. Tomé*: 57 (1944); Tardieu-Blot in *Aubrév., Fl. Cameroun* **3**: 88 (1964); Benl in *Acta Bot. Barcinon.* **32**: 22 (1980).

[**Vandenboschia borbonica** (Bosch) G. Kunkel in *Nova Hedwigia* **6**: 213 (1963)]

SÃO TOMÉ. Pico, 1500–2000 m, *Moller* s.n. (BM!, COI!); Trás-os-Montes, 1200 m, *Quintas* 1269A (BM!, COI!).

DISTRIBUTION. Widespread in tropical Africa, SE and S. Africa, Madagascar and Reunion.

NOTE. This taxon has not been recorded in the islands since the nineteenth century.

Trichomanes crispiforme Alston in *Exell, Cat. Vasc. Pl. S. Tomé*: 57 (1944); Alston in *Exell & Rozeira in Conf. Int. Afr. Oc.* **3**: 78 (1958); Tardieu-Blot in *Aubrév., Fl. Cameroun* **3**: 90 (1964).

SÃO TOMÉ. Cabumbé, *Newton* (P?).

PRÍNCIPE. Ôquê Pipi, secondary forest, 300 m, epiphyte, *Exell* 501 (BM!, COI!); W. of Pico, 500–600 m, *Monod* 12123 (BM!), 700–800 m, *Monod* 12143 (BM!); Pico, *Rozeira* 905 (BM-not found, PO); s.l., *Barter* 1918 (K-not found).

DISTRIBUTION. W. and Central tropical Africa.

Trichomanes digitatum Sw., *Syn. fil.*: 370 (1806); Alston in *Exell in Bull. Inst. Franç. Afrique Noire ser. A*, **21**: 441 (1959).

[**Microtrichomanes digitatum** (Sw.) Copel. in *Philipp. J. Sci.* **67**: 36 (1938)]

SÃO TOMÉ. Calvário, 1400 m, *Monod* 11855 (BM!, COI!).

DISTRIBUTION. Also in Madagascar, Mauritius, Reunion, Malaya and Borneo.

Trichomanes erosum Willd., *Sp. pl.* **5**: 501 (1810); Alston in *Exell, Cat. Vasc. Pl. S. Tomé*: 58 (1944); Benl in *Acta Bot. Barcinon.* **32**: 16 (1980).

[**Microgonium erosum** (Willd.) C. Presl, *Gefässbündel Farrn.* **27** (1847)]

Trichomanes chamaedrys Taton in *Bull. Soc. Roy. Bot. Belgique* **78**: 29, pl. 2, figs K-L (1946); Alston in *Exell & Rozeira in Conf. Int. Afr. Oc.* **3**: 78 (1958).

SÃO TOMÉ. Porto Alegre, *Chevalier* 14178 (P); Pico, 1900 m, *Moller* s.n. (COI!); São João dos Angolares, 80 m, *Newton* s.n. (BM!, COI!); Macambrará, 1200 m, epiphyte, *Quintas* 1269B (BM!, COI!); Bom Sucesso, *Quintas* s.n. (BM!, COI!); Ribeira Peixe, *Rozeira* 205 (BM-not found, PO); s.l., *F.A.E. (Moller & Quintas)* 6 (K!, LISU!), *Quintas* 3 (COI!).

PRÍNCIPE. S.l., *Barter* 1919 (K!).

DISTRIBUTION. Tropical Africa.

Trichomanes mannii Hook. ex Hook. & Baker, *Syn. fil.*: 75 (1867); Alston in *Exell, Cat. Vasc. Pl. S. Tomé*: 58 (1944); Benl in *Acta Bot. Barcinon.* **32**: 17 (1980).

[**Gonocormus mannii** (Hook. ex Hook. & Baker) G. Kunkel in *Nova Hedwigia* **6**: 212 (1963)]

SÃO TOMÉ. Lagoa Amélia, *Exell* 203 (BM!, COI!); between São Pedro and Lagoa Amélia, 1050 m, *Monod* 11706 (BM!); Trás-os-Montes, 850 m, *Quintas* 1269 (BM!, COI!).

DISTRIBUTION. W., Central and E. Africa, Madagascar and Comoros.

Trichomanes pyxidiferum L., *Sp. pl.* **2**: 1098 (1753).

[**Vandenboschia pyxidifera** (L.) Copel. in *Philipp. J. Sci.* **67**: 53 (1938)]

var. **melanotrichum** (Schltdl.) Schelpe in *J. S. African Bot.* **30**: 181 (1964); Benl in *Acta Bot. Barcinon.* **32**: 24 (1980).

Trichomanes melanotrichum Schltdl., *Adumbr. pl.*: 56 (1832); Alston in *Exell, Cat. Vasc. Pl. S. Tomé*: 58 (1944).

SÃO TOMÉ. São Nicolau, 900 m, *F.A.E. (Moller)* 7 (BM!, K!, LISU!), 950 m, *Moller* s.n. (COI!); Lagoa Amélia, *Rozeira* 1084 (K!); s.l. (probably São Nicolau), *F.A.E. (Moller)* 4 p.p. (P!).

DISTRIBUTION. Widespread in tropical and subtropical Africa.

Trichomanes radicans Sw. in *J. Bot. (Schrader)* **1800**(2): 97 (1801); Benl in *Acta Bot. Barcinon.* **32**: 14 (1980).

[**Vandenboschia radicans** (Sw.) Copel. in *Philipp. J. Sci.* **67**: 54 (1938)]

Trichomanes giganteum sensu auct. non Bory ex Willd., *Sp. pl.* **5**: 514 (1810); Alston in *Exell, Cat. Vasc. Pl. S. Tomé*: 58 (1944).

SÃO TOMÉ. Macambrará, primary forest, 1050–1200 m, ground fern, *Exell*

185 (BM!, COI!), *Moller* s.n. (COI!); near São Tomé, 20 m, *Moller* s.n. (COI!); Pico, 1800 m, *Moller* s.n. (COI!), *Newton* s.n. (BM!, COI!); São Pedro, *Quintas* s.n. (COI!); s.l., *F.A.E. (Moller & Quintas)* 8 (BM-not found, COI!, LISU!, P!), *Mann* s.n. (K!).

DISTRIBUTION. W., Central and E. Africa, Madagascar, Comoros and Reunion.

Trichomanes rigidum Sw., *Prodr.*: 137 (1788).

[*Selenodesmium rigidum* (Sw.) Copel. in *Philipp. J. Sci.* **67**: 81 (1938)]

Trichomanes cupressoides Desv. in *Mém. Soc. Linn. Paris* **6**(2): 330 (1827); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 57 (1944); Alston in Exell & Rozeira in *Conf. Int. Afr. Oc.* **3**: 78 (1958).

SÃO TOMÉ. Maria Fernandes, secondary forest, 275 m, *Carvalho* 2 (LISC!); São Miguel, Monte Verde, secondary forest, 10–150 m, *Lejoly* 95/96 (LISC!).

PRÍNCIPE. Ôquê Nazaré, *Newton* s.n. (BM!, COI!); Pico, above Neves Ferreira, *Rozeira* 650 (BM-not found, PO), 683 (BM-not found, PO); Pico, *Rozeira* 907 (BM-not found, PO).

DISTRIBUTION. Widespread in tropical and subtropical Africa, tropical America.

Lomariopsidaceae

Bolbitis Schott

Bolbitis acrostichoides (Afzel. ex Sw.) Ching in C. Chr., *Index filic.* Suppl. 3: 47 (1934); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 68 (1944); Hennipman, *Monogr. fern genus Bolbitis*: 149 (1977); Benl in *Acta Bot. Barcinon.* **40**: 61 (1991).

SÃO TOMÉ. Near São Tomé, *F.A.E. (Moller)* 67 (K also *Moller* 41!, LISU!); Monte Café, 800 m, *Moller* s.n. (COI!); *Welwitsch* 63b (BM!, LISU!); São Pedro, 1100 m, *Quintas* s.n. (COI!).

DISTRIBUTION. Tropical Africa, Madagascar.

NOTES. *Moller* 63 (K), cited by Hennipman (1977), is probably a mistake for *F.A.E. (Moller)* 67.

This taxon has not been recorded in the islands since the nineteenth century.

Bolbitis auriculata (Lam.) Ching in C. Chr., *Index filic.* Suppl. 3: 47 (1934) et Alston in *J. Bot.* **72**, Suppl. 2: 3 (1934); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 68 (1944); Hennipman, *Monogr. fern genus Bolbitis*: 136 (1977); Benl in *Acta Bot. Barcinon.* **40**: 59 (1991).

SÃO TOMÉ. Boa Entrada, *Chevalier* 14335 (P!); Monte Café, *Moller* s.n. (COI!), 800 m, *F.A.E. (Moller)* 66 (BM!, LISU!, P!); Diogo Vaz, 150 m, *Quintas* s.n. (BM!, COI!, K!, LISJC!, P!); above Monte Café, *Welwitsch* 58 (BM!, LISU!).

PRÍNCIPE. Between Ôquê Pipi and Morro do Leste, secondary forest, 350 m, ground fern, *Exell* 572 (BM!); s.l., *Barter* 1899 (K-not found).

DISTRIBUTION. Tropical Africa, Madagascar, Mascarenes.

Bolbitis fluviatilis (Hook.) Ching in C. Chr., *Index filic.*, Suppl. 3: 48 (1934); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 69 (1944); Alston in Exell & Rozeira in *Conf. Int. Afr. Oc.* **3**: 78 (1958); Alston in Exell in *Bull. Inst. Franç. Afrique Noire ser. A*, **21**: 447 (1959); Tardieu-Blot in Aubrév., *Fl. Cameroun* **3**: 316 (1964); Hennipman, *Monogr. fern genus Bolbitis*: 142 (1977); Benl in *Acta Bot. Barcinon.* **40**: 60 (1991).

SÃO TOMÉ. São João dos Angolares, 200 m, *F.A.E. (Quintas)* 68 (BM!, COI!, LISU!); Rio Abade, 1300 m, *Quintas* s.n. (COI!).

PRÍNCIPE. Pico, 700–800 m, *Monod* 12137 (BM!); between Lapa and Pico, *Rozeira* 893 (PO); s.l., *Barter* 1897 (K), 1897bis (K!).

DISTRIBUTION. W. tropical Africa.

Lomariopsis Fée

Lomariopsis guineensis (Underw.) Alston in *J. Bot.* **72**, Suppl. 2: 5 (1934); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 81 (1944); Tardieu-Blot in Aubrév., *Fl. Cameroun* **3**: 309 (1964); Benl in *Acta Bot. Barcinon.* **40**: 64 (1991).

SÃO TOMÉ. Ilhéu das Rolas, 120 m, *Quintas* 1164 (BM!, COI also labelled no. 35 from Monte Café!), *F.A.E. (Quintas)* 65 p.p. (BM!, COI!, K!-also *Quintas* 35); Monte Café, *Welwitsch* 68 (BM!, LISU!).

PRÍNCIPE. Esperança, 600 m, *Rozeira* 892 (K!).

DISTRIBUTION. W. tropical Africa to Angola.

Lomariopsis hederacea Alston in *J. Bot.* **72**, Suppl. 2: 5 (1934); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 81 (1944); Benl in *Acta Bot. Barcinon.* **40**: 70 (1991).

SÃO TOMÉ. Macambrará, 1050–1200 m, epiphyte, *Exell* 189 (BM!), primary forest, 1050–1200 m, ground fern, *Exell* 315 (BM!, COI!); Rio Contador, 1300 m, *Moller* s.n. (COI!); s.l., *F.A.E. (Moller & Quintas)* 65 p.p. (BM!, COI!), *Moller* s.n. (COI!).

DISTRIBUTION. W. tropical Africa to Angola, Central Africa.

NOTE. *Barter* s.n. (K) from Príncipe was cited by Alston in the protologue of the species (paratype). *Barter* 1899 (K), also from Príncipe, was cited by Alston in 1944. The same collection (*Barter* 1899) was cited by Alston (1944) under *Bolbitis auriculata*. Neither of these collections was found under *Lomariopsis hederacea* at K. *Barter* 1899 (K) is *Bolbitis auriculata*. It is possible that both citations refer to *Barter* 1902 (K), a specimen of *L. warnecke*.

Lomariopsis warnecke (Hieron.) Alston in *J. Bot.* **72**, Suppl. 2: 6 (1934); Benl in *Acta Bot. Barcinon.* **40**: 70 (1991).

Lomariopsis nigrescens Holtum in *Kew Bull.* 1939: 627, figs 13 & 14 (1940); Alston in Exell in *Bull. Inst. Franç. Afrique Noire ser. A*, **21**: 447 (1959).

Lomariopsis hederacea sensu auct. non Alston in *J. Bot.* **72**, Suppl. 2: 5 (1934); Alston in Exell & Rozeira in *Conf. Int. Afr. Oc.* **3**: 79 (1958).

PRÍNCIPE. Pico, above Neves Ferreira, epiphyte, *Rozeira* 663 (BM-not found, PO!); Pico, epiphyte, *Thorold* 2086 (BM!); s.l., *Barter* 1902 p.p. (K!).

DISTRIBUTION. E. and SE Africa and Bioko.

NOTE. *Barter* 1902 (K) consists of two herbarium sheets. The one cited above is apparently a young plant (as noted by Holtum on the herbarium sheet), with pinnae smaller than in typical *Lomariopsis warnecke*. The other sheet contains a larger specimen, referred to *L. hederacea* by Holtum, but with much larger and separated pinnae. Although the distinction between this species and the previous seems to be clear in material from the continent, some specimens from São Tomé and Príncipe show intermediate features.

Loxogrammaceae

Loxogramme (Blume) C. Presl

Loxogramme lanceolata (Sw.) C. Presl, *Tent. pterid.*: 215, t. 9, fig. 8 (1836); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 90 (1944); Benl in *Acta Bot. Barcinon.* **33**: 24 (1982).

SÃO TOMÉ. Macambrará, primary forest, 1200 m, epiphyte, *Exell* 230 (BM!); between Estação Sousa and Pico, 1700 m, *Matos* 7551 (LISC!); between Bom Sucesso and Lagoa Amélia, primary forest, 1350–1420 m, *Matos & Van Essche* 7290 (LISC!); Saudade, 780 m, *Moller* s.n. (COI!); NW of Pico, 1600–1800 m, *Monod* 12239 (BM!); Trás-os-Montes, *Quintas* s.n. (BM!, COI!); Novo Brasil, Monte Mário, *Rozeira* 4 (PO!); Cruzeiro, 300 m, *Thorold* 2069 (BM!).

PRÍNCIPE. S.l., *Barter* 1898 (K!).

DISTRIBUTION. Widespread in tropical and subtropical Africa.

Lycopodiaceae

Huperzia Bernh.

Huperzia mildbraedii (Herter) Pic. Serm. in *Webbia* **23**: 163 (1968); Benl in *Acta Bot. Barcinon.* **31**: 10 (1978).

Lycopodium mildbraedii Herter in *Hedwigia* **49**: 90 (1909); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 95 (1944).

SÃO TOMÉ. Lagoa Amélia, epiphyte, *Espírito Santo* 5032 (LISC!, LISJC!), primary forest, 1400–1420 m, epiphyte, *Matos & Van Essche* 7409 (LISC!), 1350 m, epiphyte, *Moller* s.n. (COI!), 1400 m, *Monod* 11734 (BM!); Calvário, 1500 m, *Exell* 317 (BM!, COI!), 1550 m, *Monod* 11832 (BM!); Macambrará, primary forest, 1050–1200 m, epiphyte, *Exell* 427 (BM!, COI!); Pico, 1700–1900 m, *F.A.E. (Moller)* 75 (BM!, K!, LISU!, P!), 1850 m, epiphyte, *Moller* s.n. (COI!), *Moller* s.n. p.p. (COI!), *Rose* 323 (P!); Bom Sucesso, 1250 m, epiphyte, *Moller* s.n. (COI!); Trás-os-Montes, 1100 m, *Quintas* 1321 p.p. (COI!); s.l., *F.A.E. (Moller)* 74 p.p. (BM!, COI!, LISU!), 1100–1400 m, *Moller* 76 (K!).

PRÍNCIPE. Pico Papagaio, 350 m, *Exell* 702 (BM!, COI!); W. of Pico, below 250 m, *Monod* 12097 (BM!); Pico, common up to 900 m, *Thorold* 2083 (BM!).

DISTRIBUTION. W. tropical Africa.

Huperzia ophioglossoides (Lam.) Rothm. in *Feddes Repert. Spec. Nov. Regni Veg.* **54**: 62 (1944).

SÃO TOMÉ. Pico, primary forest, 1900–2020 m, *Lejoly* 94/538 (LISC!), 1850 m, epiphyte, *Mollers* s.n. p.p. (COI!), *Rose* 328 (P!); s.l. (probably Pico), *F.A.E. (Moller)* 74 p.p. (LISU!).

DISTRIBUTION. Tropical, SE and S. Africa, Madagascar and Mascarene Is.

Huperzia phlegmaria (L.) Rothm. in *Feddes Repert. Spec. Nov. Regni Veg.* **54**: 62 (1944); Benl in *Acta Bot. Barcinon.* **31**: 9 (1978).

Lycopodium phlegmaria L., *Sp. pl.* **2**: 1101 (1753); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 96 (1944).

SÃO TOMÉ. Pico, *Chevalier* 13660 (P!); Lagoa Amélia, *Chevalier* 14307 (P!); Ribeira Peixe, Vila Irene, epiphyte, *Espírito Santo* 4601 (LISC!); São João das Angolares, *F.A.E. (Quintas)* 76 (BM!, K!, LISU!, P!), *Quintas* s.n. (COI!); Perseverança, *Seabra* 183b (LISU!).

PRÍNCIPE. Between Terreiro Velho and Infante D. Henrique, plantation, 100 m, *Exell* 587 (BM!, COI!); Porto Real, *Rose* 483 (P!).

DISTRIBUTION. Palaeotropical.

Huperzia verticillata (L.f.) Trevis. in *Atti Soc. Ital. Sci. Nat.* **17**: 248 (1874); Benl in *Acta Bot. Barcinon.* **31**: 8 (1978).

Lycopodium verticillatum L.f., *Suppl. pl.*: 448 (1782); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 96 (1944); Tardieu-Blot in Aubrév., *Fl. Cameroun* **3**: 12 (1964).

SÃO TOMÉ. Bom Sucesso, 1200 m, *F.A.E. (Moller)* 73 (BM!, COI!, K!, LISU!, P!); Macambrará, 1100 m, *Moller* s.n. (COI!).

DISTRIBUTION. Tropical, SE and S. Africa, Comoros and Reunion, tropical America, and Polynesia.

NOTE. This taxon has not been recorded in the islands since the nineteenth century.

Huperzia warneckei (Herter ex Nessel) Pic. Serm. in *Webbia* **23**: 163 (1968).

Lycopodium warneckei (Herter ex Nessel) Alston in *Bol. Soc. Brot., ser. 2*, **30**: 20 (1956); Alston in Exell & Rozeira in *Conf. Int. Afr. Oc.* **3**: 81 (1958).

SÃO TOMÉ. Between São Miguel and Zagaia, primary forest, 170–400 m, *Matos & Van Essche* 7247 (LISC!); Trás-os-Montes, 1100 m, *Quintas* 1321 p.p. (COI!); Ribeira Peixe, between Vila José and Ermelinda, *Rozeira* 288 (PO!).

DISTRIBUTION. W. tropical Africa.

Lycopodiella Holub

Lycopodiella cernua (L.) Pic. Serm. in *Webbia* **23**: 166 (1968); Benl in *Acta Bot. Barcinon.* **31**: 11 (1978).

Lycopodium cernuum L., *Sp. pl.* **2**: 1103 (1753); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 95 (1944); Sobrinho in *Portugaliae Acta Biol., Ser. B, Sist.* **3**: 393 (1952).

SÃO TOMÉ. Porto Alegre, *Chevalier* 14196 (P!); São Nicolau, 1000 m, *Espírito Santo* 4448 (LISC!, LISJC!), 900 m, *Mollers* s.n. (COI!); Macambrará, primary forest, 1200 m, *Exell* 94 (BM!); Santa Maria, 1300 m, *Exell* 196 (BM!, COI!), 1380 m, *Moller* s.n. (COI!); Lagoa Amélia, 1300 m, *Exell* 206 (BM!, COI!), crater swamp, 1300 m, *Exell* 209 (BM!), 1412 m, *Matos* 7504 (LISC!); Trás-os-Montes, *Gama* s.n. (COI!); road to Monte Mário, *Lains e Silva* 279 (LISU!); Pico, primary forest, 1900–200 m, *Lejoly* 94/546 (LISC!); Bom Sucesso, secondary forest, 1150 m, *Matos & Van Essche* 7459 (LISC!); Saudade, 950 m, *Moller* s.n. (COI!); above Monte Café, 1050 m, *Monod* 11679 (BM!); between Cascata and Morro Vilela, 700–1000 m, *Monod* 12202 (BM!); Santelmo, *Oliveira & Noronha* 6-B (LISU!); Monte Café, in forest and plantations, *Oliveira & Noronha* s.n. (LISU!); Trás-os-Montes, between Calvário and main house, *Rozeira* 527 (PO!); s.l., *Campos* 16 (COI!), *F.A.E. (Moller)* 77 (BM!, COI!, K!, LISU!).

PRÍNCIPE. Ôquê Pipi, secondary forest, 300 m, *Exell* 551 (BM!, COI!); Ôquê Gaspar, *Newton* s.n. (COI!); Ribeira Jambere, *Rozeira* 593 (PO!); Pico Papagaio, 900 m, *Welwitsch* 10 (BM!, LISU!).

DISTRIBUTION. Cosmopolitan.

Lycopodium L.

Lycopodium clavatum L., *Sp. pl.* **2**: 1101 (1753); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 95 (1944); Tardieu-Blot in Aubrév., *Fl. Cameroun* **3**: 16 (1964); Benl in *Acta Bot. Barcinon.* **31**: 10 (1978).

SÃO TOMÉ. Pico, 2000 m, *Chevalier* 13676 (P!), 2000 m, *F.A.E. (Moller)* 78 (BM!, COI!, K!, LISU!, P!), 1850 m, *Monod* 11919 (BM!, COI!), *Rose* 320 (P!).

DISTRIBUTION. Cosmopolitan.

Marattiaceae

Marattia Sw.

Marattia fraxinea Sm., *Pl. icon. ined.* **2**: t. 48 (1790); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 94 (1944); Benl in *Acta Bot. Barcinon.* **32**: 3 (1980); Pichi Sermolli in *Webbia* **23**: 332 (1969).

Marattia robusta Alston in Exell, *Suppl. Cat. Vasc. Pl. S. Tomé*: 8 (1956).

SÃO TOMÉ. Monte Café, primary forest, 1200 m, *Espírito Santo* 191 (BM!, holotype of *Marattia robusta*, COI!, LISJC!), 760 m, *Welwitsch* 70 (BM!, LISU!); Ribeira Peixe, S. of Cabumbé, secondary forest, *Espírito Santo* 3899 (COI!, LISJC!); Macambrará, primary forest, 1050–1200 m, *Exell* 129 (BM!, COI!), 1250 m, *Moller* s.n. (COI!); Lagoa Amélia, 1200–1400 m, very common, *Lains e Silva* 88 (LISU!), 88a (LISU!), 1350–1380 m, *Monod* 11771 (BM!, COI!), *Rozeira* 1091 (PO!); São Miguel, Monte Verde, secondary forest, 10–150 m, *Lejoly* 95/88 (LISC!); between São Miguel and Zagaia, primary forest, 170–400 m, *Matos & Van Essche* 7239 (LISC!); Bom Sucesso, 1250 m, *Moller* s.n. (COI!); between São Pedro and Lagoa Amélia, 1050 m, *Monod* 11717 (BM!); São João dos Angolares, 150 m, *Quintas* s.n. (COI!); Porto Alegre, near Cão Pequeno, *Rozeira* 51 (PO!); between Lagoa Amélia and Calvário, *Rozeira* 1171 (PO!); Dona Augusta, *Rozeira* 1179 (PO!); s.l., *F.A.E. (Moller & Quintas)* 71 (BM!, COI!, LISU!).

PRÍNCIPE. S.l., *Barter* 1916 (K!).

DISTRIBUTION. Palaeotropical.

NOTE. Pichi Sermolli (1969) considered that *Marattia robusta* was a strong form of *M. fraxinea* and that the plants from São Tome might be recognized at infraspecific level. The collection from Príncipe is from a smaller plant (*M. fraxinea* s.s.).

Nephrolepidaceae

Arthropteris J. Sm.

Arthropteris monocarpa (Cordem.) C. Chr., *Cat. pl. mad., pter.*: 32 (1932); Alston in *Exell, Cat. Vasc. Pl. S. Tomé*: 69 (1944); Alston in *Exell in Bull. Inst. Franç. Afrique Noire ser. A*, **21**: 445 (1959); Benl in *Acta Bot. Barcinon.* **33**: 35 (1982).

SÃO TOMÉ. Pico, *Campos* 77 (COI!), *Chevalier* s.n. (P!), primary forest, 1987 m, *Matos & Van Essche* 7385 (LISC!); Macambrará, virgin forest, 1050–1200 m, *Exell* 121 (BM!), 1200–1350 m, 122a (BM!); Lagoa Amélia, crater swamp, 1300 m, ground fern, *Exell* 210 (BM!), 1430 m, epiphyte, *Matos* 7494 (LISC!); between Macambrará and São Nicolau, secondary woodland, 1050 m, *Exell* 403 (BM!, COI!); Trás-os-Montes, *Gama* s.n. (COI!); between Pico and Monte Castro, 6 km S. of Ponta Figo, mountain rainforest, 1200–1800 m, *Lejoly* 95/23 (LISC!); Calvário and surroundings, primary forest, 1600–1620 m, epiphyte, *Matos & Van Essche* 7349 (LISC!); São João dos Angolares, 80 m, *Newton* s.n. (BM!, COI!); s.l., *Moller* s.n. (COI!), *F.A.E. (Moller)* 38 p.p. (BM!, LISJC!, LISU!, P!).

PRÍNCIPE. Porto Real, *Rose* 450 (P!); Pico, 950 m, *Thorold* 2082 (BM!).

DISTRIBUTION. Widespread in tropical Africa and Mascarene Is.

Arthropteris orientalis (J.F. Gmel.) Posth. in *Recueil Trav. Bot. Néerl.* **21**: 218 (1924); Alston in *Exell, Cat. Vasc. Pl. S. Tomé*: 70 (1944); Tardieu-Blot in *Aubrév., Fl. Cameroun* **3**: 116 (1964); Benl in *Acta Bot. Barcinon.* **33**: 34 (1982).

SÃO TOMÉ. Between Monte Café and Pico, *Chevalier* 14562 (P!); Pico, *Moller* s.n. (COI-not found); Cruzeiro, 300 m, *Thorold* 2068 (BM!); s.l., *F.A.E. (Moller)* 38 p.p. (BM!, COI!, LISJC!, P!).

PRÍNCIPE. Rio Bambu-Porco, 60 m, epiphyte, *Navel* 143 (P!).

DISTRIBUTION. Widespread in tropical Africa and Mascarene Is.

Arthropteris palisotii (Desv.) Alston in *Bol. Soc. Brot., ser. 2*, **30**: 6 (1956); Benl in *Acta Bot. Barcinon.* **33**: 31 (1982).

Arthropteris oblitterata sensu auct. non (R. Br.) J. Sm., *Ferns Brit. for.*: 163 (1866); C. Chr., *Index filic.*: 62 (1905); Alston in *Exell, Cat. Vasc. Pl. S. Tomé*: 70 (1944).

SÃO TOMÉ. São João dos Angolares, 120 m, *F.A.E. (Quintas)* 47 (BM!, LISU!), 80 m, *Newton* s.n. (BM!, COI!), 120 m, *Quintas* s.n. (COI!); Água Pinhão, 650 m, *Quintas* 1454 (BM!, COI!); Monte Café, 760 m, *Welwitsch* 55 (BM!, K!, LISU!).

DISTRIBUTION. Tropical Africa, tropical Asia, Philippines.

Nephrolepis Schott

Nephrolepis biserrata (Sw.) Schott, *Gen. fil.*: ad t. 3 (1834); Alston in *Exell, Cat. Vasc. Pl. S. Tomé*: 70 (1944); Sobrinho in *Portugaliae Acta Biol., ser. B, Sist.* **3**: 392 (1952); Benl in *Acta Bot. Barcinon.* **33**: 36 (1982).

SÃO TOMÉ. Boa Entrada, *Chevalier* 13789 (P); between Monte Café and Pico, *Chevalier* 14291bis (P); São Miguel, 50 m, not frequent, *Espírito Santo* 4743 (LISC!, LISJC!); Água Izé, littoral, ground fern, *Exell* 482 (BM!, COI!), common epiphyte, *Pinto Basto* 214 (LISC!); Rio Contador, 1300 m, *Moller* s.n. (COI!); Bombaim, *Monod* 11887 (BM!); W. of Pico, *Monod* 11895 (BM!); between Quinas Altas and Monte Quinas, 520–750 m, *Monod* 12021 (BM!), 12022 (BM!); Santelmo, secondary forest, very abundant epiphyte, *Oliveira & Noronha* 23-A (LISU!); São Nicolau, Dependência Roça Nova, road to Trás-os-Montes, *Oliveira & Noronha* s.n. (LISU!); Ilhéu das Rolas, *Quintas* s.n. (COI!); Cruzeiro, 300 m, *Thorold* 2063 (BM!); s.l., *F.A.E. (Moller)* 46 (BM!, COI!, LISU!), *Moller* s.n. (COI!), *Ratray* s.n. (E), *Souza* s.n. (COI!).

PRÍNCIPE. Terreiro Velho, plantation, 200 m, ground fern, *Exell* 525 (BM!, COI!), 526 (BM!, COI!); s.l., *Ratray* s.n. (E), *Souza* s.n. (COI!), *Welwitsch* 23 (BM!, K!, LISU!), *Welwitsch* 23b (BM!, LISU!).

DISTRIBUTION. Pantropical.

Nephrolepis pumicicola F. Ballard in *Kew Bull.* [1955]: 467 (1955); Alston in *Exell in Bull. Inst. Franç. Afrique Noire ser. A*, **21**: 445 (1959); Tardieu-Blot in *Aubrév., Fl. Cameroun* **3**: 108 (1964); Benl in *Acta Bot. Barcinon.* **33**: 37 (1982).

SÃO TOMÉ. Lagoa Amélia, *Chevalier* 13650 (P!), 1412 m, *Matos* 7505 (LISC!), 1380 m, *Monod* 11759 (BM!); Pico, *Chevalier* 13659ter (P!); between Monte Café and Pico, *Chevalier* 14581 (P!); s.l., 1500 m, *Mann* 1106 (K!), *Mann* s.n. (P!).

DISTRIBUTION. Cameroun, Bioko.

Nephrolepis undulata (Afzel. ex Sw.) J. Sm. in *Bot. Mag.* **72**, Comp.: 37 [as '35'] (1846); Alston in *Exell, Cat. Vasc. Pl. S. Tomé*: 71 (1944); Benl in *Acta Bot. Barcinon.* **33**: 39 (1982).

SÃO TOMÉ. São Nicolau, 870 m, *Espírito Santo* 5053 (LISC!, LISJC!); Macambrará, coffee plantation, 1200 m, epiphyte, *Exell* 116 (BM!, COI!), primary forest, 1050–1200 m, epiphyte, *Exell* 190a (BM!); Lagoa Amélia, 1300 m, ground fern, *Exell* 212 (BM!); Trás-os-Montes, *Gama* s.n. (COI!); Santa Catarina, *Lains e Silva* 387 (LISU!); between Monte Castro and Ponta Figo, secondary forest, 500–1070 m, *Lejoly* 94/39 (LISC!); Pico, primary forest, 1900–2020 m, *Lejoly* 94/540 (LISC!); Nova Moca, 850 m, *Moller* s.n. (COI!); Saudade, *Moller* s.n. (COI!); Monte Café, 690 m, *Monod* 11669 (BM!), 600 m, *Thorold* 2061 (BM!); Bombaim, *Monod* 11885 (BM!); between Monte Quinas and Quinas Altas, *Monod* 12016 (BM!); NW of Pico, above Cascata, 1000 m, *Monod* 12267 (BM!); Água Izé, *Pinto Basto* 209 (LISC!); s.l., *Brentel* s.n. (COI!), *F.A.E. (Moller)* 45 (BM!, LISU!), *Mann* (not found).

PRÍNCIPE. Pico, summit, *Rozeira* 924 (PO!).

DISTRIBUTION. Widespread in tropical and S. Africa.

Oleandraceae

Oleandra Cav.

Oleandra distenta Kunze in *Bot. Zeitung (Berlin)* **9**: 347 (1851); Alston in *Exell, Cat. Vasc. Pl. S. Tomé*: 69 (1944); Benl in *Acta Bot. Barcinon.* **33**: 28 (1982).

Oleandra annetii sensu auct. non Tardieu in *Notul. Syst. (Paris)* **14**: 332 (1953); Pichi Sermolli in *Webbia* **20**: 763 (1965) p.p. quoad

distr. São Tomé; Benl in *Acta Bot. Barcinon.* **33**: 30 (1982) p.p. quoad distr. São Tomé.

SÃO TOMÉ. Macambrará, primary forest, 1050–1200 m, epiphyte, *Exell* 237 (BM!); Nova Moca, 950 m, *Moller* s.n. (COI!); Bom Sucesso, 1250 m, *Moller* s.n. (COI!); Calvário, *Espírito Santo* 5058 p.p. (LISC!); São João dos Angolares, *Newton* s.n. (BM!, COI!); Trás-os-Montes, *Quintas* s.n. (COI!); Monte Café, *Welwitsch* 52 (BM!, LISU!); s.l., *F.A.E. (Moller & Quintas)* 48 (BM!, G, K also *Moller* 43!, LISU!).

PRÍNCIPE. S.l., *Barter* 1928 (K!).

DISTRIBUTION. Widespread in tropical and subtropical Africa and Mascarene Is.

NOTE. Some collections from São Tomé previously identified as *Oleandra annettii* Tardieu have squarrose rhizomes with abruptly subulate to gradually tapering scales and for this reason, they are here referred to *O. distenta* s.l.

Ophioglossaceae

Ophioglossum L.

Ophioglossum costatum R. Br., *Prodr.*: 163 (1810); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 94 (1944).

SÃO TOMÉ. Between Macambrará and São Nicolau, *Exell* 307 (BM-not found).

DISTRIBUTION. Widespread in tropical Africa, Asia, and Australasia.

Ophioglossum reticulatum L., *Sp. pl.* **2**: 1063 (1753); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 94 (1944); Benl in *Acta Bot. Barcinon.* **33**: 3 (1982).

SÃO TOMÉ. Near São Pedro, 900–1200 m, *Chevalier* 14532 (P!); Magodinho, 50 m, *Espírito Santo* 4929 (LISC!, LISJC!); Macambrará, primary forest, 1050–1200 m, *Exell* 444 (BM!); Nova Moca, 800 m, *F.A.E. (Quintas)* 72 (BM!, COI!, K!, LISU!, P!), *Quintas* s.n. (COI!); Diogo Nunes, *Newton* s.n. (BM!, COI!, P!); Diogo Vaz, between Paga Fogo and Rio Paga Fogo, *Rozeira* 698 (PO!); s.l. (probably Nova Moca), *Quintas* 62 (K!), *Welwitsch* 30 (BM!, LISU!).

DISTRIBUTION. Pantropical and subtropical.

Polypodiaceae

Anapeltis J. Sm.

Anapeltis lycopodioides (L.) J. Sm., *Cult. ferns*: 6 (1857).

var. *owariensis* (Desv.) Benl in *Acta Bot. Barcinon.* **33**: 18 (1982).

Polypodium lycopodioides sensu auct. non L., *Sp. pl.* **2**: 1082 (1753); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 88 (1944); Sobrinho in *Portugaliae Acta Biol., Ser. B, Sist.* **3**: 393 (1952).

Microgramma owariensis (Desv.) Alston in *Bol. Soc. Brot., ser. 2*, **30**: 20 (1956); Alston in Exell & Rozeira in *Conf. Int. Afr. Oc.* **3**: 80 (1958).

SÃO TOMÉ. Pico, *Chevalier* 13639 (P); Porto Alegre, *Chevalier* 14211 bis (P); Vila Conceição, 100 m, *Matos* 7718 (LISC!); Caixão Grande, 200 m, *Moller* s.n. (COI!); Trindade, 250 m, *Moller* s.n. (COI!); near São Tomé, *Moller* s.n. (COI!); Ribeira Peixe, epiphyte, *Oliveira & Noronha* 35-A (LISU!); Água Izé, epiphyte on plantation, *Pinto Basto* 206 (LISC!); Correia, 50 m, *Quintas* 1246 (BM!, COI!); Ilhéu das Rolas, *Quintas* s.n. (COI!); São Nicolau, 900 m, *Quintas* s.n. (LISU!); Ribeira Peixe, between Vila José and Ermelinda, epiphyte, *Rozeira* 236 (PO!); Diogo Vaz, *Rozeira* 869 (PO); s.l., *F.A.E. (Moller & Quintas)* 54 (COI!, BM!, LISJC!, LISU!), *Seabra* s.n. (COI!, LISU!).

PRÍNCIPE. Terreiro Velho, 200 m, epiphyte, *Exell* 534 (BM!, COI!); Porto Real, epiphyte, *Lains e Silva* 420 (LISU!); Sundi, epiphyte, *Monod* 12076 (BM!), *Thorold* 2080 (BM!); Berimbau, *Newton* 23 (BM!, COI!); Cimáló, *Quintas* 43 (BM!, COI!); Infante D. Henrique, at the base of Dois Irmãos, epiphyte, *Rozeira* 435 (BM-not found, PO!); Esperança, 120 m, *Rozeira* 996 (PO), *Thorold* 2076 (BM!); Santo António, sea level, epiphyte, *Thorold* 2079 (BM!); s.l., *Rattray* s.n. (E, K!).

DISTRIBUTION. W. tropical Africa.

Belvisia Mirb.

Belvisia spicata (L.f.) Mirb. ex Copel., *Gen. fil.*: 192 (1947); Alston in Exell in *Bull. Inst. Franç. Afrique Noire ser. A*, **21**: 444 (1959); Tardieu-Blot in Aubrév., *Fl. Cameroun* **3**: 342 (1964); Benl in *Acta Bot. Barcinon.* **33**: 12 (1982).

Hymenolepis spicata (L.f.) C. Presl, *Epimel. bot.*: 159 (1851); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 90 (1944); Sobrinho in *Garcia de Orta* **7**: 89 (1959).

SÃO TOMÉ. Calvário, secondary forest, 920 m, epiphyte, *Espírito Santo* 5075 (LISJC!); Ribeira Peixe, 140 m, epiphyte, *Lains e Silva* 248 (LISU!), 257 (LISJC-not found), 284 (LISJC-not found); Trás-os-Montes, 700 m, *Quintas* 1322 p.p. (BM!, COI!); Nova Moca, 1100 m, *Quintas* s.n. (LISU!); Ribeira Peixe, between Vila José and Ermelinda, *Rozeira* 272 (PO!); Cruzeiro, 300 m, *Thorold* 2067 (BM!), 300 m, 2071 (BM!); s.l., 900 m, *Quintas* 3 (K!).

DISTRIBUTION. Tropical Africa and Mascarene Is.

Drynaria (Bory) J. Sm.

Drynaria laurentii (H. Christ ex De Wild. & T. Durand) Hieron. in Engl. & Drude, *Veg. Erde* **9**(2): 57, fig. 54 (1908); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 90 (1944); Benl in *Acta Bot. Barcinon.* **33**: 10 (1982).

SÃO TOMÉ. Monte Café, *Chevalier* 14291 (P!), 600 m, *Thorold* 2062 (BM!), 600–760 m, *Welwitsch* 69 (BM!, K!, LISU!); Blu-blu, 50 m, *Moller* s.n. (COI!); Água Izé, epiphyte, *Pinto Basto* 217 (LISC!); Diana, *Rozeira* 957 (PO!); Perseverança, *Seabra* 173 (LISU!); s.l., *Don* s.n. (BM!), *F.A.E. (Moller)* 57 (BM!, K also *Moller* 52!, LISU!).

PRÍNCIPE. S.l., *Welwitsch* 17 (BM!, K!, LISU!).

DISTRIBUTION. Tropical Africa.

Drynaria volkensii Hieron. in Engl. & Drude, *Veg. Erde* **9**(2): 57 (1908) nomen; in *Bot. Jahrb. Syst.* **46**: 393 (1911); Alston in Exell & Rozeira in *Conf. Int. Afr. Oc.* **3**: 80 (1958); Alston in Exell in *Bull. Inst. Franç. Afrique Noire ser. A*, **21**: 444 (1959); Benl in *Acta Bot. Barcinon.* **33**: 11 (1982).

SÃO TOMÉ. Nova Moca, 900 m, *Moller* s.n. (COI!); Cruzeiro, 300 m, *Thorold* 2066 (BM!); Água Izé, 180 m, *Thorold* 2092 (BM!).

PRÍNCIPE. Praia da Lapa, epiphyte, *Rozeira* 1902 (BM-not found, PO!); s.l., *Barter* 1921 (K!).

DISTRIBUTION. Widespread in tropical Africa.

Microsorium Link

Microsorium punctatum (L.) Copel. in *Univ. Calif. Publ. Bot.* **16**: 111 (1929); Benl in *Acta Bot. Barcinon.* **33**: 14 (1982).

Polypodium irioides Poir., *Encycl.* **5**: 513 (1804); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 88 (1944).

SÃO TOMÉ. Between Bom Sucesso and Lagoa Amélia, *Almeida* s.n. (LISC!); Boa Entrada, *Chevalier* 13788 (P!), 14375 (not found); São João dos Angolares, *F.A.E. (Quintas)* 55 (LISU!), *Quintas* s.n. (COI!); Água Izé, common epiphyte, *Pinto Basto* 203 (LISC!); s.l., *Mendonça* s.n. (P!), *Souza* s.n. (BM!, COI!).

PRÍNCIPE. Santo António, sea level, epiphyte, *Monod* 12189 (BM!); Sundi, 150 m, *Quintas* 62 (COI!); Esperança, 120 m, *Thorold* 2077 (BM!); Lapa, near sea level, *Thorold* 2089 (BM!), 2090 (BM!); s.l., *Ratray* s.n. (E), *Welwitsch* 25 (BM!, LISU!).

DISTRIBUTION. Palaeotropical.

Phymatosorus Pic. Serm.

Phymatosorus scolopendria (Burm.f.) Pic. Serm. in *Webbia* **28**: 460 (1973); Benl in *Acta Bot. Barcinon.* **33**: 13 (1982).

Polypodium phymatodes L., *Mant. pl.* **2**: 306 (1771); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 89 (1944); Alston in Exell, *Suppl. Cat. Vasc. Pl. S. Tomé*: 8 (1956).

SÃO TOMÉ. Boa Entrada, *Chevalier* 13786 (P); Porto Alegre, *Chevalier* 14243 (K!); Famosa, 400 m, *Espírito Santo* 69 (BM!, COI!, LISJC!); Ilhéu das Rolas, plantation, 70 m, epiphyte, *Espírito Santo* 5110 (LISC!, LISJC!), *Quintas* s.n. (COI!); Água Izé, epiphyte, *Exell* 480 (BM!, COI!), epiphyte, *Pinto Basto* 201 (LISC!); bridge over R. Abade, *Figueiredo & Arriegas* 34 (LISC!); Rio Santo António, *Matos* 7646 (LISC!); Praia Pantufo, *Moller* s.n. (COI!); near Batepá, 500 m, *Moller* s.n. (COI!); Bombaim, epiphyte, *Monod* 11880 (BM!); NW of Pico, 1000 m, *Monod* 12268 (BM!, COI!); Quingombó, 100 m, *Newton* s.n. (COI!); Cruzeiro, 300 m, *Thorold* 2070 (BM!); Monte Café, 850 m, *Welwitsch* 51 (BM!, LISU!); s.l., *Don* s.n. (BM!), *F.A.E. (Moller & Quintas)* 56 (BM!, COI!, LISJC!, LISU!); *Mendonça* (COI!, K!), *Moller* s.n. (COI!), *Rozeira* 1 (PO!), *Seabra* s.n. (COI!).

PRÍNCIPE. Terreiro Velho, plantation, 200 m, ground fern, *Exell* 523 (BM!, COI!); Esperança, 120 m, *Thorold* 2075 (BM!), 2078 (BM!); Lapa, near sea level, *Thorold* 2091 (BM!); s.l., *Ratray* s.n. (E), *Welwitsch* 9 (BM!, K!, LISU!), 9bis (K!).

DISTRIBUTION. Palaeotropical.

Platyserium Desv.

Platyserium stemaria (P. Beauv.) Desv. in *Mém. Soc. Linn. Paris* **6**: 213 (1827); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 91 (1944); Alston in Exell, *Suppl. Cat. Vasc. Pl. S. Tomé*: 8 (1956); Benl in *Acta Bot. Barcinon.* **33**: 9 (1982); Hennipman & Roos, *Monogr. fern genus Platyserium*: 108 (1982).

SÃO TOMÉ. São Vicente, 200 m, epiphyte, *Espírito Santo* 24 (BM!, COI!, LISJC!); near São Tomé, *Chevalier* 13726 (P!); Trindade, 250 m, *Moller* s.n. (COI!), *Quintas* s.n. (COI!); Rio do Ouro, 380 m, *Moller* s.n. (COI!); Diogo Vaz, epiphyte, *Rozeira* 829 (PO!); s.l., 250–350 m, *F.A.E. (Moller)* 70 (LISU!), *Mendonça* s.n. (K!, P!), 250 m, *Moller* 60 (K!).

PRÍNCIPE. Precipício, *Monod* 12178 (BM!); Praia das Burras, epiphyte, *Rozeira* 1029 (PO!); s.l., *Barter* 1886 (K!), *Welwitsch* 20 (K-not found, LISU!), 20b (BM-not found, LISU!).

DISTRIBUTION. W. and Central tropical Africa.

Pleopeltis Humb. & Bonpl. ex Willd.

Pleopeltis excavata (Bory ex Willd.) Sledge in *Bull. Br. Mus. (Nat. Hist.) Bot.* **2**: 138 (1960); Benl in *Acta Bot. Barcinon.* **33**: 16 (1982).

Polypodium preussii Hieron. in Engl. in *Bot. Jahrb. Syst.* **46**: 386 (1911); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 89 (1944).

SÃO TOMÉ: Calvário, *Espírito Santo* 5058 p.p. (LISC!, LISJC!); Macambrará, primary forest, 1050–1200 m, epiphyte, *Exell* 113 (BM!); Lagoa Amélia, *Exell* 216 (BM-not found), 1412 m, *Matos* 7511 (LISC!), 1380 m, *Monod* 11758 (BM!), 1450 m, *Monod* 11768 (BM!, COI!); Macambrará to Zampalma, 900 m, epiphyte, *Exell* 295 (BM!); Pico, light woodland, 2000 m, epiphyte, *Exell* 341 (BM!), primary forest, 1900–2020 m, *Lejoly* 94/536 (LISC!), *Mann* (not found), primary forest, 1987 m, epiphyte, *Matos & Van Essche* 7386 (LISC!); Bom Sucesso, 1080 m, *F.A.E. (Moller & Quintas)* 53 (BM!, LISU!), *Moller* s.n. (COI!); near São Nicolau waterfall,

800 m, *Lains e Silva* 129 (LISU!); Casa do Pico, 1930 m, *Monod* 12250 (BM!); s.l., *Souza* s.n. (COI!).

DISTRIBUTION. Palaeotropical.

Pleopeltis macrocarpa (Bory ex Willd.) Kaulf. in *Berlin. Jahrb. Pharm. Verbundenen Wiss.* **21**: 41 (1820).

SÃO TOMÉ. Lagoa Amélia, primary forest, 1400–1420 m, epiphyte, *Matos & Van Essche* 7411 (LISC!).

DISTRIBUTION. Pantropical and subtropical

Pyrrosia Mirb.

Pyrrosia lanceolata (L.) Farw. in *Amer. Midl. Naturalist* **12**: 245 (1931); Alston in Exell & Rozeira in *Conf. Int. Afr. Oc.* **3**: 80 (1958); Tardieu-Blot in Aubrév., *Fl. Cameroun* **3**: 340 (1964); Hovenkamp, *Monogr. fern genus Pyrrosia*: 191 (1986).

Cyclophorus spissus (Bory ex Willd.) Desv. in *Ges. Naturf. Freunde Berlin Mag. Neuesten Entdeck. Gesammten Naturk.* **5**: 301 (1811) var. *continentalis* Hieron. ex Engl. in Engl. & Drude, *Veg. Erde* **9**(2): 55, fig. 53 (1908); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 91 (1944).

SÃO TOMÉ. Cruzeiro, *Rozeira* 690 (BM-not found, PO).

PRÍNCIPE. Cimáló, *Quintas* 30 (BM!, COI!, P!, Z); Esperança, way to Montalegre, *Rozeira* 392 (PO!); Praia da Lapa, *Rozeira* 1944 (PO!); s.l., *Keulemans* s.n. (L), *Quintas* A (K!).

DISTRIBUTION. Palaeotropical.

Psilotaceae

Psilotum Sw.

Psilotum nudum (L.) P. Beauv., *Prodr. aethéogam.*: 106, 112 (1805); Alston in Exell, *Suppl. Cat. Vasc. Pl. S. Tomé*: 9 (1956); Benl in *Acta Bot. Barcinon.* **31**: 21 (1978).

SÃO TOMÉ. Praia Melão, *Rozeira* 57 (PO!); s.l., *Don* s.n. (BM!).

DISTRIBUTION. Widespread in tropical and subtropical regions worldwide.

Pteridaceae

Pteris L.

Pteris atrovirens Willd., *Sp. pl.* **5**: 385 (1810); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 83 (1944); Tardieu-Blot in Aubrév., *Fl. Cameroun* **3**: 166 (1964); Benl in *Acta Bot. Barcinon.* **38**: 16 (1988).

SÃO TOMÉ. Boa Entrada, *Chevalier* 13792 p.p. (P!); Pico, *Chevalier* 14617 (P!); Trás-os-Montes, *Gama* s.n. (COI!); between Quinas Altas and Monte Quinas, *Monod* 12009 (BM!, COI!); Água Izé, *Pinto Basto* 210 (LISC!); Pedroma, *Rozeira* 1370 (K!); s.l., *Don* s.n. (BM!), *F.A.E. (Moller)* 18 p.p. (BM!, COI!, LISU!, P!), *Moller* s.n. p.p. (COI!), *Moller* s.n. (COI!), *Ratray* s.n. (E, K!).

PRÍNCIPE. Esperança, *Navel* 146 (P!); Sundi, *Newton* 42 (COI!); Pico Papagaio, *Welwitsch* 22 (BM!, LISU!); s.l., *Jardim* (cited by Kuhn, 1868), *Ratray* s.n. (E).

DISTRIBUTION. W. tropical Africa.

Pteris burtonii Baker in *Ann. Bot. (London)* **5**: 218 (1891); Alston in Exell in *Bull. Inst. Franç. Afrique Noire ser. A*, **21**: 442 (1959); Benl in *Acta Bot. Barcinon.* **38**: 7 (1988).

PRÍNCIPE. S.l., *Fox* s.n. (BM!).

DISTRIBUTION. W. and E. tropical Africa.

NOTES. This taxon has not been recorded in the islands since the nineteenth century.

The collection *Walg* 71 (WAG), from São Tomé, was interpreted as a possible hybrid between *Pteris atrovirens* and *P. burtonii* by Benl (1988: 17).

Pteris dentata Forssk., *Fl. aegypt.-arab.*: 186 (1775); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 84 (1944).

subsp. ***flabellata*** (Thunb.) Runemark in *Bot. Not.* **115**: 190 (1962); Benl in *Acta Bot. Barcinon.* **38**: 11 (1988).

Pteris communata sensu auct. non Kuhn in Von der Decken's *Reisen Ost-Afr., Bot.* **3**: 20 (1879); Alston in Exell in *Bull. Inst. Franç. Afrique Noire ser. A*, **21**: 442 (1959).

SÃO TOMÉ. Lagoa Amélia, 1400 m, *Monod* 11749 (BM!).

PRÍNCIPE. Esperança, 600 m, *Rozeira* 890 (K!).

DISTRIBUTION. Subtropical Africa, Madagascar, Mascarene Is., Ascension, St Helena.

Pteris linearis Poir., *Encycl.* **5**: 723 (1804); Alston in Exell & Rozeira in *Conf. Int. Afr. Oc.* **3**: 79 (1958); Benl in *Acta Bot. Barcinon.* **38**: 18 (1988).

Pteris biaurita sensu auct. non L., *Sp. pl.* **2**: 1076 (1753); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 83 (1944).

SÃO TOMÉ. Boa Entrada, *Chevalier* 13792 p.p. (P); Ilhéu das Rolas, palm plantation, *Espírito Santo* 5145 (LISC!, LISJC!), *Rozeira* 74 (BM-not found, PO!); Bombaim, *Rozeira* 495 (PO); Santa Catarina, palm plantation, *Rozeira* 790 (K!); s.l., *Don* s.n. (BM!), *F.A.E. (Moller)* 16 (BM!, COI!, LISU!), 900 m, *Moller* 14 (K!), *Moller* s.n. (COI!), *Ratray* s.n. (E).

PRÍNCIPE. Ôquê Nazaré, *Carvalho* s.n. (COI!); Terreiro Velho, plantation, 200 m, ground fern, *Exell* 529 (BM!, COI!); s.l., *Welwitsch* 22b (LISU!).

DISTRIBUTION. Palaeotropical.

Pteris paucipinnata Alston in Exell in *Bull. Inst. Franç. Afrique Noire ser. A*, **21**: 443 (1959); Benl in *Acta Bot. Barcinon.* **38**: 14 (1988).

Pteris catoptera sensu auct. non Kunze in *Linnaea* **18**: 119 (1844); Alston in Exell & Rozeira in *Conf. Int. Afr. Oc.* **3**: 79 (1958).

Pteris quadriaurita sensu auct. non Retz, *Observ. bot.* **6**: 38 (1791); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 84 (1944) p.p. quoad spec. São Tomé.

SÃO TOMÉ. Macambrará, primary forest, 1050–1200 m, ground fern, *Exell* 187 (BM!); between Pico and Monte Castro, 6 km S. of Ponta Figo, mountain rainforest, 1200–1800 m, *Lejoly* 95/11 (LISC!); Monte Café, 1010 m, *Monod* 11690 (BM!-holotype); Colónia Açoreana, *Rozeira* 267 (PO); Diogo Vaz, *Rozeira* 516 (PO); s.l., 350 m, *Welwitsch* 54 (BM!, LISU!).

PRÍNCIPE. Pico Papagaio, 600 m, ground fern, *Exell* 686 (BM!).

DISTRIBUTION. Bioko.

Pteris pteridioides (Hook.) F. Ballard in *Kew Bull.* [**1937**]: 348 (1937); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 84 (1944); Tardieu-Blot in Aubrév., *Fl. Cameroun* **3**: 170 (1964); Benl in *Acta Bot. Barcinon.* **38**: 9 (1988).

SÃO TOMÉ. Trás-os-Montes, *Gama* s.n. (COI!); Macambrará, 1200 m, *Quintas* 5 (K!), 1200 m, *Quintas* 1352 (BM!, COI!, K!, P!).

DISTRIBUTION. Widespread in tropical and subtropical Africa.

NOTE. This taxon has not been recorded in the islands since the nineteenth century.

Pteris similis Kuhn in Von der Decken's *Reisen Ost-Afr., Bot.* **3**: 21 (1879); Benl in *Acta Bot. Barcinon.* **38**: 18 (1988).

Pteris atrovirens sensu auct. non Willd., *Sp. pl.* **5**: 385 (1810); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 83 (1944) p.p.

SÃO TOMÉ. São Miguel, Monte Verde, secondary forest, 10–150 m, *Lejoly* 95/98 (LISC!); Água Izé, common, *Pinto Basto* 200 (LISC!); Monte Café, 760 m, *Welwitsch* 53 (BM!, LISU!); s.l., *Don* s.n. (BM!).

PRÍNCIPE. Between Ôquê Pipi and Morro do Leste, secondary forest, 350 m, ground fern, *Exell* 561 (BM!, COI!); Sundi, 150 m, *Quintas* 45 (BM!, COI!, K!, P!); Infante D. Henrique, *Rose* 407 (P!).

DISTRIBUTION. W. tropical Africa to E. Africa.

Pteris togoënsis Hieron. in Brause & Hieron. in Engl. in *Bot. Jahrb. Syst.* **53**: 402 (1915); Benl in *Acta Bot. Barcinon.* **38**: 13 (1988).

PRÍNCIPE. S.l., *Barter* 1926 (K!).

DISTRIBUTION. W. tropical Africa to E. Africa.

NOTE. This taxon has not been recorded in the islands since the nineteenth century.

Pteris tripartita Sw. in *J. Bot. (Schrader)* **1800**(2): 67 (1801); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 84 (1944); Benl in *Acta Bot. Barcinon.* **38**: 15 (1988).

SÃO TOMÉ. Boa Entrada, *Chevalier* 13720 (P!); Ilhéu das Rolas, *F.A.E. (Quintas)* 20 (BM!, LISU!), *Quintas* s.n. (COI!); s.l., *Don* s.n. (BM!); s.l., *Ratray* s.n. (E).

PRÍNCIPE. Sundi, littoral, *Quintas* 11 (BM!, COI!, K!, P!).

DISTRIBUTION. Pantropical.

Pteris vittata L., *Sp. pl.* **2**: 1074 (1753); Alston in Exell & Rozeira in *Conf. Int. Afr. Oc.* **3**: 79 (1958); Alston in Exell in *Bull. Inst. Franç. Afrique Noire ser. A*, **21**: 443 (1959).

SÃO TOMÉ. Monte Café, 690 m, *Monod* 11671 (BM!), *Rozeira* s.n. (PO); Água Izé, *Pinto Basto* 216 (LISC!).

DISTRIBUTION. Pantropical. Alston (1958, 1959) suggested that this might be an escape from cultivation.

Selaginellaceae

Selaginella P. Beauv.

Selaginella cathedrifolia Spring in *Mém. Acad. Roy. Sci. Belgique* **24**: 112 (1849); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 96 (1944); Tardieu-Blot in Aubrév., *Fl. Cameroun* **3**: 30 (1964); Benl in *Acta Bot. Barcinon.* **31**: 15 (1978).

PRÍNCIPE. Above Infante D. Henrique, secondary forest, 300 m, ground fern, *Exell* 629 (BM!); Pico Papagaio, 600 m, ground fern, *Exell* 687 (BM!, COI!); near Lapa, *Monod* 12094 (BM!); s.l., *Barter* 1931 (K!), *Curror* 3 (K!-type), *Mann* s.n. (K!).

DISTRIBUTION. W. and Central tropical Africa.

Selaginella mannii Baker in *J. Bot.* **23**: 180 (1885); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 96 (1944).

SÃO TOMÉ. Between Monte Café and Pico, *Chevalier* 14552 (P!); Macambrará, primary forest, 1050–1200 m, *Exell* 95 (BM!, COI!), 106 (BM!), 168 (BM!), 1260 m, *Moller* s.n. (COI!); between Bom Sucesso and Calvário, primary forest, 1350–1400 m, *Matos & Van Essche* 7347 (LISC!); Bom Sucesso, 1250 m, *Moller* s.n. (COI!); Pico, 1900 m, *Moller* s.n. (COI!); Rio Contador, 1350 m, *Moller* s.n. (COI!); Lagoa Amélia, 1400 m, *Monod*

11784 (BM!); W. of Pico, 870–1225 m, *Monod* 11904 (BM!); Calvário, *Rose* 151 (P!); s.l., *F.A.E. (Moller)* 80 (BM!, COI!), K also *Moller* 75!, LISU!, P!), *Henriques* 4 (K!), 1500 m, *Mann* 1108 (K!-type).

PRÍNCIPE. Pico Papagaio, 600 m, ground fern, *Exell* 683 (BM!).

DISTRIBUTION. Endemic.

Selaginella mollerii Hieron. in Engl. & Prantl, *Nat. Pflanzenfam.* **1**(4): 697 (1901); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 97 (1944); Benl in *Acta Bot. Barcinon.* **31**: 20 (1978).

SÃO TOMÉ. Pico, *Chevalier* 13668 (P!); Macambrará, primary forest, 1050–1200 m, *Exell* 180 (BM!, COI!); Bom Sucesso, 1250 m, *Moller* s.n. (COI!); Rio Manuel Jorge, waterfall, 800 m, *Moller* s.n. (COI!); s.l., *F.A.E. (Moller)* 79 p.p. (BM type!, COI!, K!, LISU!).

DISTRIBUTION. Liberia, Nigeria, Bioko.

Selaginella molliceps Spring in *Mém. Acad. Roy. Sci. Belgique* **24**: 257 (1849); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 97 (1944); Alston in Exell & Rozeira in *Conf. Int. Afr. Oc.* **3**: 81 (1958); Benl in *Acta Bot. Barcinon.* **31**: 20 (1978).

SÃO TOMÉ. Between Bacelar and Quijá, secondary forest, 160 m, *Espírito Santo* 5140 (LISC!, LISJC!); Ribeira Peixe, Cão Grande, primary forest, *Matos* 7636 (LISC!); between São Miguel and Zagaia, primary forest, 170–400 m, *Matos & Van Essche* 7238 (LISC!); Diogo Vaz, *Rozeira* 879 (PO).

PRÍNCIPE. Ôquê Pipi, secondary forest, 300 m, ground fern, *Exell* 500 (BM!, COI!); São João, 450 m, *Newton* s.n. (COI!), *Newton* 4 (K!); Pico Papagaio, 900 m, *Welwitsch* 11 (BM!, LISU!); s.l., *Curror* 2 p.p. (K!-type).

DISTRIBUTION. W. and Central tropical Africa.

Selaginella monodii Alston in Exell in *Bull. Inst. Franç. Afrique Noire ser. A*, **21**: 440 (1959).

SÃO TOMÉ. Blu-blu, *Monod* 11806 (BM!-holotype, COI!).

DISTRIBUTION. Endemic.

Selaginella myosurus (Sw.) Alston in *J. Bot.* **70**: 64 (1932).

PRÍNCIPE. S.l., *Curror* 2 p.p. (K!).

DISTRIBUTION. Tropical Africa.

NOTE. This taxon has not been recorded in the islands since the nineteenth century.

Selaginella squarrosa Baker in *J. Bot.* **23**: 180 (1885); Alston in Exell in *Bull. Inst. Franç. Afrique Noire ser. A*, **21**: 440 (1959).

PRÍNCIPE. Pico, 500–600 m, *Monod* 12111 (BM!).

DISTRIBUTION. Cameroun, Equatorial Guinea.

Selaginella thomensis Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 97, f. 3 (1944); Tardieu-Blot in Aubrév., *Fl. Cameroun* **3**: 40 (1964).

SÃO TOMÉ. Between Santa Maria and Zampalma, 1200 m, *Exell* 261 (BM!, COI!); Macambrará, primary forest, 1050–1200 m, *Exell* 423 (BM!-holotype, COI!); road Monte Café to São Nicolau, *Figueiredo & Arriegas* 121 (LISC!); Nova Moca, 890 m, *Moller* s.n. (COI!, K!); Pico, 1950 m, *Moller* s.n. (COI!); s.l., *F.A.E. (Moller)* 79 p.p. (BM!, K!, LISU!).

DISTRIBUTION. Sierra Leone, Nigeria, Cameroun.

Sinopteridaceae

Pellaea Link

Pellaea doniana Hook., *Sp. fil.* **2**: 137, t. 125 fig. A (1858); Alston

in Exell, *Cat. Vasc. Pl. S. Tomé*: 82 (1944); Tardieu-Blot in Aubrév., *Fl. Cameroun* **3**: 140 (1964); Benl in *Acta Bot. Barcinon.* **32**: 29 (1980).

SÃO TOMÉ. Pico, *Don* s.n. (BM!-type); Ilhéu das Rolas, plantation, *Espírito Santo* 5106 (LISC!, LISJC!), *F.A.E. (Quintas)* 15 (K also *Quintas* 13!, LISU!), *Quintas* s.n. (COI!), *Rozeira* 92 (PO!).

PRÍNCIPE. Between Esperança and Fundão, primary forest, 300–350 m, *Exell* 739 (BM!).

DISTRIBUTION. Widespread in tropical Africa

Thelypteridaceae

Christella H. Lév.

Christella dentata (Forssk.) Brownsey & Jermy in *Brit. Fern Gaz.* **10**: 338 (1973); Benl in *Acta Bot. Barcinon.* **38**: 53 (1988).

Dryopteris dentata (Forssk.) C. Chr. in *Kongel. Danske Vidensk. Selsk. Naturvidensk. Math. Afh.* **8**(6): 24 (1920); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 61 (1944); Alston in Exell, *Suppl. Cat. Vasc. Pl. S. Tomé*: 7 (1956).

SÃO TOMÉ. Boa Entrada, *Chevalier* 13787 (P!), 14336 (P!); São Vicente, 200 m, *Espírito Santo* 41 p.p. (BM!, COI!, LISJC!); Novo Destino, 760 m, *Welwitsch* 61 (BM!, K!, LISU!); Monte Café, *Welwitsch* 65 (BM!, LISU!); s.l., *F.A.E. (Moller)* 42 p.p. (COI!, BM!), *Ratray* s.n. (BM!, E).

PRÍNCIPE. Ôquê Nazaré, *Newtons* s.n. (BM!, COI!); s.l., *Ratrays* s.n. (BM!, E).

DISTRIBUTION. Palaeotropical.

Christella hispidula (Decne.) Holttum in *Kew Bull.* **31**: 312 (1976); Benl in *Acta Bot. Barcinon.* **38**: 51 (1988).

Dryopteris quadrangularis (Fée) Alston in *J. Bot.* **75**: 253 (1937); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 63 (1944).

SÃO TOMÉ. Água Grande, 100 m, *Moller* s.n. (COI!); Saudade, 720 m, *Moller* s.n. (COI!); above Monte Café, 1010 m, *Monod* 11691 (BM!); between Monte Quinas and Quinas Altas, *Monod* 12006 (BM!).

DISTRIBUTION. Pantropical.

Cyclosorus Link

Cyclosorus striatus (Schum.) Ching in *Bull. Fan Mem. Inst. Biol.* **10**: 249 (1941); Benl in *Acta Bot. Barcinon.* **38**: 55 (1988).

Dryopteris striata (Schum.) C. Chr., *Index filic.*: 294 (1905); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 64 (1944).

SÃO TOMÉ. Lagoa Amélia, *Chevalier* 13653 (P).

DISTRIBUTION. Tropical Africa.

Metathelypteris (H. Ito) Ching

Metathelypteris fragilis (Baker) Holttum in *J. S. African Bot.* **40**: 127 (1974).

Dryopteris fragilis (Baker) C. Chr., *Index filic.*: 266 (1905); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 62 (1944).

subsp. **guineensis** Benl in *Nova Hedwigia* **27**: 150 (1976); Benl in *Acta Bot. Barcinon.* **38**: 43 (1988).

SÃO TOMÉ. Macambrará, primary forest, 1050–1200 m, *Exell* 133 (BM!); s.l., *Newton* 1 (K!).

DISTRIBUTION. Bioko.

NOTE. The collection cited by Holttum (l.c.) as *Newton* s.n. (K ex COI), 1885, is *Newton* 1 (K).

Pneumatopteris Nakai

Pneumatopteris afra (C. Chr.) Holttum in *Blumea* **21**: 306 (1973); Benl in *Acta Bot. Barcinon.* **38**: 57 (1988).

Dryopteris oppositifolia sensu auct. non (Hook.) C. Chr., *Index filic.*: 281 (1905); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 63 (1944) p.p. quoad pl. ex Príncipe.

Cyclosorus afer (H. Christ) Ching in *Bull. Fan Mem. Inst. Biol.* **10**: 242 (1941); Alston in Exell in *Bull. Inst. Franç. Afrique Noire ser. A*, **21**: 446 (1959).

SÃO TOMÉ. São Vicente, *Espírito Santo* 41 p.p. (LISC!); São Miguel, 50 m, *Espírito Santo* 4744 (LISC!); between Pico and Monte Castro, 6 km S. of Ponta Figo, mountain rainforest, 1200–1800 m, *Lejoly* 95/30 (LISC!); Pedroma, *Mocquers* 39/40 (P!); between Quinas Altas and Monte Quinas, *Monod* 12023 (BM!); Águia Izé, *Pinto Basto* 213 (LISC!); Lagoa Amélia, *Rose* 204 (P!), 231 (P!).

PRÍNCIPE. Terreiro Velho, plantation, 200 m, *Exell* 530a (BM!, COI!); between Ôquê Pipi and Morro do Leste, secondary forest, 350 m, ground fern, *Exell* 566 (BM!, COI!); Infante D. Henrique, *Rose* 398 (P!); s.l., *Barter* 1924 (K!), *Ratray* s.n. (E), 300 m, *Welwitsch* 21 (BM!, K!, LISU!), 21bis (K!).

DISTRIBUTION. Widespread in W. tropical Africa.

Pneumatopteris oppositifolia (Hook.) Holttum in *Blumea* **21**: 304 (1973); Holttum in *J. S. African Bot.* **40**: 157 (1974); Benl in *Acta Bot. Barcinon.* **38**: 62 (1988).

Dryopteris oppositifolia (Hook.) C. Chr., *Index filic.*: 281 (1905); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 63 (1944) p.p. quoad pl. ex São Tomé.

Cyclosorus oppositifolius (Hook.) Tardieu in *Notul. Syst. (Paris)* **14**: 346 (1953); Alston in Exell in *Bull. Inst. Franç. Afrique Noire ser. A*, **21**: 445 (1959).

SÃO TOMÉ. Between Lagoa Amélia and Calvário, primary forest, 150 m, ground fern, *Exell* 259 (BM!, COI!); Macambrará to Zampalma, 900 m, ground fern, *Exell* 297 (BM!); Trás-os-Montes, *Gama* s.n. (COI!); Ribeira Peixe, 140 m, frequent, *Lains e Silva* 268 (LISU!); Pico, 1500 m, *Mann* s.n. (K!-type); Lagoa Amélia, 1400 m, *Monod* 11748 (BM!); Calvário, 1200 m, *Monod* 11814 (BM!); between Quinas Altas and Monte Quinas, *Monod* 12018 (BM!); s.l., *F.A.E. (Moller)* 41 p.p. (BM!, COI!, LISU!, P!).

DISTRIBUTION. Bioko, Annobon.

Pneumatopteris venulosa (Kuntze) Holttum in *Blumea* **21**: 315 (1973); Benl in *Acta Bot. Barcinon.* **38**: 59 (1988).

Dryopteris venulosa Kuntze, *Revis. gen. pl.* **2**: 814 (1891); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 66 (1944).

Cyclosorus elatus (Mett. ex Kuhn) Alston in *Bol. Soc. Brot., ser. 2*, **30**: 13 (1956); Alston in Exell in *Bull. Inst. Franç. Afrique Noire ser. A*, **21**: 446 (1959).

SÃO TOMÉ. Boa Entrada, *Chevalier* 13680 (P!); Macambrará, primary forest, 1050–1200 m, ground fern, *Exell* 242 (BM!, COI!); Lagoa Amélia, 1400 m, *Monod* 11750 (BM!); s.l., *Don* s.n. (BM-not found), *F.A.E. (Moller)* 42 p.p. (K also *Moller* 39!, P!).

PRÍNCIPE. Esperança, *Navel* 145 (LISU!, P!).

DISTRIBUTION. Equatorial Guinea (continent, Bioko and Annobon).

Pseudophegopteris Ching

Pseudophegopteris henriquesii (Baker) Holttum in *Blumea* **17**: 15 (1969); Holttum in *J. S. African Bot.* **40**: 128 (1974).

Polypodium henriquesii Baker in *Henriq. in Bol. Soc. Brot.* **4**: 154, t.1 (1887).

Dryopteris henriquesii (Baker) C. Chr., *Index filic.*: 270 (1905); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 62 (1944).

Thelypteris henriquesii (Baker) Tardieu in *Notul. Syst. (Paris)* **14**: 344 (1953).

Macrothelypteris henriquesii (Baker) Pic. Serm. in *Webbia* **23**: 179 (1968).

SÃO TOMÉ. Trás-os-Montes, *Gama* s.n. (COI!); Nova Moca, *Moller* s.n. (COI!), 750 m, *Quintas* 1464 (COI!, LISJC!, P!); Macambrará, 1250 m, *Moller* s.n. (COI!); São Nicolau, waterfall, *Rozeira* 162 (PO!); Trás-os-Montes, Calvário, *Rozeira* 562 (PO!); s.l., *F.A.E. (Moller)* 49 (BM!, K!-also *Moller* 45, type, LISU!, P!), *Moller* 1 (BM!).

DISTRIBUTION. Endemic.

Sphaerostephanos J. Sm.

Sphaerostephanos elatus (Bojer) Holttum in *J. S. African Bot.* **40**: 167 (1974).

subsp. **thomensis** Holttum in *J. S. African Bot.* **40**: 167 (1974).

Thelypteris mauritiana (Fée) C.F. Reed in *Phytologia* **17**: 291 (1968) subsp. *thomensis* (Holttum) Viane in *Bull. Soc. Roy. Bot. Belg.* **118**: 54 (1985).

SÃO TOMÉ. S.l., *F.A.E. (Moller)* 41 p.p. (COI!, P!-type).

DISTRIBUTION. Endemic.

NOTE. This taxon has not been recorded in the islands since the nineteenth century.

Vittariaceae**Anthrophyum Kaulf.**

Anthrophyum immersum (Bory ex Willd.) Mett. ex Hook. in Hook. & Baker, *Syn. fil.*: 393 (1868); Alston in Exell in *Bull. Inst. Franç. Afrique Noire ser. A*, **21**: 442 (1959).

SÃO TOMÉ. Monte Verde, secondary forest, 10–150 m, *Lejoly* 95/86 (LISC!); between Estação Sousa and Pico, primary forest, 1700 m, rare epiphyte, *Matos* 7553 (LISC!); Cruzeiro, 300 m, *Thorold* 2064 (BM!).

PRÍNCIPE. Pico, 950 m, *Thorold* 2081 (BM!).

DISTRIBUTION. Also in Liberia and Mascarene Is.

Anthrophyum mannianum Hook., *Sec. cent. ferns*: t. 73 (1860); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 87 (1944); Benl in *Acta Bot. Barcinon.* **33**: 6 (1982).

SÃO TOMÉ. Pico, light woodland, 2000 m, epiphyte, *Exell* 340 (BM!); near Rio Campos, primary forest, epiphyte, *Matos & Van Essche* 7441 (LISC!); between São Pedro and Lagoa Amélia, 1250 m, *Moller* s.n. (COI!); Macambrará, 1200 m, epiphyte, *Moller* s.n. (COI!); São João dos Angolares, 200 m, *Quintas* 54A (K!), *Quintas* s.n. (COI!); Lagoa Amélia, epiphyte, *Rozeira* 1097 (PO!); s.l., *F.A.E. (Moller & Quintas)* 60 (BM!, COI!, K!, LISJC!, LISU!), 1250 m, *Moller* 54 (K!).

DISTRIBUTION. Widespread in tropical Africa.

Vittaria Sm.

Vittaria guineensis Desv. in *Ges. Naturf. Freunde Berlin Mag. Neuesten Entdeck. Gesammten Naturk.* **5**: 325 (1811); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 86 (1944); Tardieu-Blot in Aubrév., *Fl. Cameroun* **3**: 124 (1964); Benl in *Acta Bot. Barcinon.* **33**: 7 (1982).

SÃO TOMÉ. SW region, *Chevalier* 14598 (P!); Calvário, 970 m, epiphyte,

Espírito Santo 5059 (LISC!, LISJC!); between Lagoa Amélia and Esperança, 1300 m, epiphyte, *Espírito Santo* 5156 (LISC!, LISJC!); between São Carlos and Bom Sucesso, secondary forest, *Espírito Santo* 5190 (LISJC!); São João dos Angolares, littoral, *F.A.E. (Newton)* 61 p.p. (BM!), 80 m, *F.A.E. (Quintas)* 61 p.p. (BM!, COI!, K!-mixed with Barter 1908, LISU!), *Newton* s.n. p.p. (COI!, P!); Ilhéu das Rolas, *Greeff* s.n. (B?); between Pico and Monte Figo, 6 km S. of Ponta Figo, mountain rainforest, 1200–1800 m, epiphyte, *Lejoly* 95/6 (LISC!); W. of Pico, 870–1225 m, *Monod* 11906 (BM!); Macambrará, 1200 m, *Quintas* s.n. (COI!); Ribeira Peixe, between Vila Aida and main house, epiphyte, *Rozeira* 291 (PO!).

PRÍNCIPE. Pico Papagaio, primary forest, 450 m, epiphyte, *Exell* 719 (BM!, COI!); Ôquê Gaspar, *Newton* 25 p.p. (BM!); s.l., *Barter* 1908 (K!-mixed with *F.A.E.* 61).

DISTRIBUTION. W. tropical Africa to Uganda.

Vittaria owariensis Fée, *Mém. foug.* 3: 21, t. 3, fig. 2 (1852); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 87 (1944).

SÃO TOMÉ. São João dos Angolares, *F.A.E. (Newton)* 61 p.p. (BM!), *F.A.E. (Quintas)* 61 p.p. (BM!, P!), *Newton* s.n. p.p. (P!), *Quintas* s.n. (COI!); Vila Conceição, 100 m, epiphyte, *Matos* 7716 (LISC!); Rio Caué, epiphyte, *Rozeira* 30 (PO!); Rio Manuel Jorge, between Pinheira and Almas, epiphyte, *Rozeira* 83 (PO!); s.l., *Seabra* s.n. (COI!).

PRÍNCIPE. Ôquê Gaspar, *Newton* 25 p.p. (BM!, COI!); Porto Real, *Rose* 467 (P!); Infante D. Henrique, at the base of Dois Irmãos, epiphyte, *Rozeira* 480 (PO!); s.l., *Welwitsch* 13 (BM-not found, K!, LISU!).

DISTRIBUTION. W. tropical Africa.

DOUBTFUL RECORDS

Asplenium hemitomum Hieron. in Engl. in *Bot. Jahrb. Syst.* 46: 365 (1911); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 78 (1944); Benl in *Acta Bot. Barcinon.* 40: 20 (1991).

PRÍNCIPE ?

NOTE. Alston (l.c.) recorded this species based on the collection *Barter* 1896a (K!) from Príncipe. *Barter* 1896 is a mixed collection, containing *A. hemitomum* and *A. eurysorum*. Since Barter also collected *A. hemitomum* in Bioko it is possible that a specimen of this species, from Bioko, was attached to the herbarium sheet with *A. eurysorum* from Príncipe.

Ceratopteris cornuta (P. Beauv.) Lepr. in *Ann. Sci. Nat. (Paris)* 19: 103, t. 4A (1830); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 92 (1944).

PRÍNCIPE ? *Barter* (Kuhn, 1868).

NOTE. No specimens were seen at BM, K or P. However, at BM there is a specimen collected by Barter during the Niger Expedition, unlocalized, which could have been collected in Príncipe.

Dryopteris manniana (Hook.) C. Chr., *Index filic.*: 276 (1905); Benl in *Acta Bot. Barcinon.* 40: 38 (1991).

SÃO TOMÉ ?

NOTE. No specimens were seen.

Lastreopsis nigrítiana (Baker) Tindale in *Contr. New South Wales Natl. Herb.* 3: 245 (1963); Tardieu-Blot in Aubrév., *Fl. Cameroun* 3: 280 (1964); Benl in *Acta Bot. Barcinon.* 40: 51 (1991).

Polypodium nigrítianum Baker in Hook. & Baker, *Syn. fil.*: 313 (1867).

PRÍNCIPE ?

NOTE. No specimens were seen. Although there are references in the literature to the occurrence of this species in Príncipe, Tindale (1965) did not record it for São Tomé and Príncipe in his monograph of the genus.

Lygodium microphyllum (Cav.) R. Br., *Prodr.*: 162 (1810).

Lygodium scandens sensu auct. non (L.) Sw. in *J. Bot. (Schrader)* 1800(2): 106 (1801); Alston in Exell, *Cat. Vasc. Pl. S. Tomé*: 93 (1944).

PRÍNCIPE ? (Barter, 1860).

NOTE. No specimens were seen at BM or K. There are specimens of *Lygodium microphyllum* collected by Barter in 1859 during the Niger Expedition, some of which are unlocalized and could have been collected on the island. Being a lowland species, *L. microphyllum* might be extinct due to the extensive cultivation of these areas.

Ophioglossum gramineum Willd. in *Schrift. Akad. Erfurt*: 18, t. 1, f. 1 (1802); Tardieu-Blot in Aubrév., *Fl. Cameroun* 3: 46 (1964).

SÃO TOMÉ ?

NOTE. No specimens seen.

Trichomanes africanum H. Christ in *J. Bot. (Morot)*, ser. 2, 2: 21 (1909); Benl in *Acta Bot. Barcinon.* 32: 23 (1980).

[**Vandenboschia africana** (H. Christ) G. Kunkel in *Nova Hedwigia* 6: 213 (1963)]

SÃO TOMÉ ?

NOTE. No specimens seen.

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